

In The Matter Of:

*Christopher S. Long v.
Cleveland Clinic Foundation*

Mehmet C. Oz, M.D.

May 16, 2002

BORAK REPORTING SERVICE

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[1] [2] IN THE COURT OF COMMON PLEAS CUYAHOGA COUNTY, OHIO [3] [4] CHRISTOPHER S. LONG, Executor of the Estate of JAMES LONG, Plaintiff, [5] Case No 419978 [6] - vs - [7] CLEVELAND CLINIC FOUNDATION, Defendant [8] [9] [10] [11] May 16,2002 2:50 p.m [12] [13] [14] Videotaped deposition of MEHMET C. OZ, MD , taken [15] by Plaintiff, pursuant to Notice and Agreement, at [16] Columbia Presbyterian Medical Center, The Milstein [17] Building 177 Fori Washington Avenue, New York, New [18] York, before Linda D Noto, a Certified Shorthand [19] Reporter, Registered Professional Reporter and [20] Notary Public of the States of New York and New [21] Jersey. [22] [23] [24] [25]	[1] [2] [3] [4] IT IS HEREBY STIPULATED AND [5] AGREED by and between the attorneys for [6] the respective parties hereto that the [7] sealing and filing of the within [8] deposition be and the same hereby are, [9] waived, and that the transcript may be [10] signed before any Notary Public with the [11] same force and effect as if signed before [12] the Court. [13] IT IS FURTHER STIPULATED AND AGREED [14] that all objections, except as to the [15] form of the question, shall be reserved [16] to the time of trial. [17] [18] [19] [20] [21] [22] [23] [24] [25]
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[1] [2] Appearances [3] [4] BECKER & MISHKIND CO , L P A Attorneys for Plaintiff Skylight Office Tower 1660 West Second Street, Suite 660 Cleveland, Ohio 44113 [5] [6] BY JEANNE M TOSTI, ESQ [7] VIA TELECONFERENCE [8] [9] ROETZEL & ANDRESS, P A Attorneys for Defendant 1375 East Ninth Street One Cleveland Center, 10th Floor Cleveland, Ohio 44114 [10] [11] BY JOHN V JACKSON, ESQ. [12] [13] [14] ALSO PRESENT [15] DEV WRITE, VIDEOGRAPHER Borak Reporting [16] [17] [18] [19] [20] [21] [22] [23] [24] [25]	[1] [2] THE VIDEO OPERATOR: We are on [3] the record. [4] Today's date is May 16,2002. [5] This is the case of Christopher S. [6] Long versus Cleveland Clinic. [7] This is the deposition of Mehmet [8] OZ. [9] Will counsel please identify [10] themselves. [11] MR. JACKSON: You need to [12] identify yourself, Jeanne? [13] MS. TOSTI: This is counsel for [14] plaintiff, Jeanne Tosti. [15] MR. JACKSON: I'm John Jackson [16] for the Cleveland Clinic. [17] MEHMET C. OZ, M.D., having [18] been first duly sworn by a Notary Public [19] of the State of New York, (Linda D. [20] Noto), according to law, was examined and [21] testified as follows: [22] EXAMINATION [23] BY MS. TOSTI: [24] Q: Let the record reflect that this [25] is a discovery deposition of Dr. Mehmet Oz who

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[1] Oz [2] has been identified as an expert on behalf of [3] defendant, Cleveland Clinic, in this action, [4] and the deposition is being taken by [5] plaintiff's counsel, Jeanne Tosti, pursuant to [6] Ohio Rules of Civil Procedure via telephone. [7] Plaintiff's counsel is in [8] Cleveland and the witness was sworn and we'll [9] have this deposition transcribed and videotaped [10] by a state of New York court reporter present [11] with the witness in New York City. [12] Okay, Doctor, would you please [13] state your full name for us? [14] A Mehmet C. Oz. [15] Q: And what is your business [16] address? [17] A: 177 Fort Washington Avenue, New [18] York, New York, 10032. [19] Q: Have you had your deposition [20] taken before? [21] A: I have. [22] Q: How many times? [23] A: Probably half a dozen times. [24] Q: I'm sure defense counsel has had [25] an opportunity to speak with you. I'm going to	[1] OZ [2] MS. TOSTI: Okay. I would like [3] for the court reporter to please mark [4] the various items in his file. [5] Q: And then, Doctor, I'm going to [6] ask you just to identify what is contained in [7] your file, and use the exhibit number that the [8] court reporter places on those various items. [9] (Whereupon, Two-page letter [10] written to Mr. Jackson summarizing the [11] views of Dr. Oz of this case dated [12] November 19, 1999, was marked as [13] Plaintiff's Exhibit 1 for [14] identification, as of this date.) [15] (Whereupon, Portions of the [16] chart from the admission of James Long [17] from 8/20/96 to 9/13/96, was marked as [18] Plaintiff's Exhibit 2 for [19] identification, as of this date.) [20] (Whereupon, Deposition of [21] Jeffrey Vender, was marked as [22] Plaintiff's Exhibit 3 for [23] identification, as of this date.) [24] (Whereupon, Large packet [25] containing depositions from a variety
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[1] Oz [2] go over some of the ground rules. [3] This is a question and answer [4] session, It's under oath. It's important that [5] you understand the questions that I'm asking [6] you. [7] If you don't understand them, [8] please ask me, I'll be happy to repeat them or [9] to rephrase them, otherwise I'm going to assume [10] you understood my question and you're able to [11] answer. [12] It's important that you give all [13] of your answers verbally so the stenographer [14] can take down your testimony. [15] Also at some point defense [16] counsel may choose to enter an objection. You [17] are still required to answer my question, [18] unless defense counsel feels he has a basis to [19] tell you not to do so. [20] Do you have any questions [21] regarding those instructions? [22] A: No, it's very clear. [23] Q: Okay, Doctor, did you bring your [24] file with you today? [25] A: I did.	[1] OZ [2] of different individuals including [3] Dr. Cosgrove, Dr. Muehlebach, [4] Dr. Hernandez and several of the [5] nurses, was marked as Plaintiff's [6] Exhibit 4 for identification, as of [7] this date.) [8] A: These four exhibits — Exhibit [9] No. 1 is my two-page letter written to [10] Mr. Jackson summarizing my view of this case [11] dated November 19, 1999. [12] Exhibit 2 is portions of the [13] chart from admission of this patient from [14] 8/20/96 to 9/13/96. [15] Q: And those would be the Cleveland [16] Clinic records? [17] A: Abstracted records and that they [18] are Xeroxed — Xeroxes of part of the chart. [19] Item No. 3 is the deposition of [20] Jeffrey Vender. [21] And item No. 4 is a large packet [22] of depositions from a variety of different [23] individuals including Dr. Cosgrove, [24] Dr. Muehlebach, Dr. Hernandez and several of [25] the nurses.

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[1] Oz [2] Q: Could you identify what nursing [3] depositions you have? [4] A: Yes. Denise Hrobat, [5] H-R-O-B-A-T, Angelique Young and Catherine [6] Zilka. [7] Q: And in regard to the physicians, [8] beside Dr. Cosgrove and Dr. Muehlebach, are [9] there any other physician's depo contained in [10] that packet? [11] A: There are. Dr. Hernandez, [12] Dr. Hearn and Dr. Koch, K-O-C-H. [13] Q: And that was marked as Exhibit [14] No. 4; is that correct? [15] A: It is. [16] Q: And I believe there is number [17] Exhibit No. 5? [18] A: No. [19] MR. JACKSON: No. [20] Q: Just four exhibits? [21] A: Yes. [22] Q: Now, Doctor, the items that have [23] been marked Exhibits 1 through 4, is that your [24] entire file on this case? [25] MR. JACKSON: Jeanne, I removed	[11] OZ [12] BY MS. TOSTI: [13] Q: Doctor, how many items have been [14] removed from your files? [15] MR. JACKSON: I will tell you. [16] There are one, two, three, four, five, [17] six letters. [18] BY MS. TOSTI: [19] Q: And aside from the materials [20] that Mr. Jackson has identified, has anything [21] else been removed from your Ne? [22] MR. JACKSON: I didn't remove [23] anything else. [24] A: No, I have not removed anything [25] from the file at all. [1] Q: And is there anything that you [2] didn't bring with you today that you reviewed [3] and considered in connection with this case? [4] MR. JACKSON: I will tell you, [5] Jeanne, there are a couple of [6] depositions which I know were sent to [7] the Doctor that I don't see here. [8] He did review the deposition of [9] Dr. Minore, and I believe that's it. [10] I don't see Dr. Minore's
Page 10	Page 12
[1] Oz [2] the correspondence that I had with the [3] Doctor. [4] Since it's your position that [5] this is work product and privileged [6] information, I have removed that. [7] If you tell me otherwise then, [8] that's not your position, then we can [9] agree to exchange that with you in [10] return for you doing that for us. [11] MS. TOSTI: I don't think it [12] matters what my position is. I think [13] it matters what your position is. [14] Is it your position that is [15] attorney work product and you removed [16] it on the basis of attorney work [17] product? [18] MR. JACKSON: I just said why I [19] removed it, I removed it because it [20] has been your position in these [21] matters that it is attorney work [22] product. [23] MS. TOSTI: I'm masking what your [24] position is. [25] MR. JACKSON: I just told you.	[1] Oz [2] deposition here. [3] I'm talking about Dr. Steven [4] Minore, your other expert. [5] I believe Dr. V. C. Smith's [6] deposition was mentioned. If it [7] wasn't, that was also provided to the [8] Doctor. [9] A: Those two depositions were given [10] to me together, and for whatever reason I don't [11] have them. [12] I know I had them at your [13] initially scheduled deposition. [14] Q: Okay. There are two nursing [15] experts that have been identified in this case. [16] MR. JACKSON: He has not [17] reviewed the nursing experts' [18] depositions. [19] MS. TOSTI: Okay. [20] Q: Have you provided any bills to [21] Mr. Jackson for the work that you've done on [22] this case, Doctor? [23] A: I have. [24] Q: And are those contained in your [25] file?

Page 13 [1] <i>or</i> [2] A: They are not. [3] Q: Can you tell me how many hours [4] you have put into this case to date? [5] A: I can find that out, but I do [6] not know that off the top of my head. [7] Q: You said something that you [8] would be able to produce to Mr. Jackson and [9] provide to me? [10] A: Very easily. [11] MS. TOSTI: Okay, I'm going to [12] make a request for any billings that [13] the Doctor has made on this case. [14] Q: Doctor, I'd like to talk to you [15] a little bit about your experience in medical [16] legal matters. [17] Have you served as an expert in [18] other cases beside this one? [19] A: I have. [20] Q: And when is the first time you [21] first offered your services as an expert in a [22] medical legal matter? [23] A: You know, I — I can remember [24] the case, I don't know what year it was. [25] Q: Can you tell me approximately?	Page 15 [1] <i>or</i> [2] A: That's correct. [3] Q: And in the one case that you [4] consulted for on behalf of plaintiffs, did you [5] find that there was substandard care? [6] A: I believe so at the time, which [7] is why I agreed to participate in the case. [8] Q: What was the subject matter of [9] that case? [10] A: This was a case of a patient [11] whose care had been delayed for a variety of [12] reasons and she ended up suffering a [13] catastrophic rupture of an aneurism for that [14] case. [15] Q: What kind of aneurism was it? [16] Aortic aneurism? [17] A: It was an aortic aneurism. [18] Q: Doctor, you said that you had [19] your deposition taken twice as an expert; is [20] that correct? [21] A: That's correct. [22] Q: Have you ever testified at [23] trial? [24] A: I testified in one case for the [25] defense at trial.
Page 14 [1] <i>or</i> [2] A 1999. [3] Q: And how many medical legal [4] matters have you consulted on? [5] A: That I've been deposed on or [6] just consulted on? [7] Q: Let's start with consulted on. [8] A: Probably half a dozen. [9] Q: Okay. And how many have you had [10] depositions taken as an expert? [11] A: Two. [12] That I can remember. [13] Q: How many files do you currently [14] have in your possession that you're consulting [15] on regarding a medical legal matter? [16] A: This is the only case. [17] Q: And in regard to the medical [18] legal matters on which you've been consulted, [19] what proportion have been for plaintiff and [20] what proportion have been for defendant? [21] A: There was one plaintiff's case [22] and the rest have been defense cases. [23] Q: Okay, so approximately five [24] defense cases? I think you told me you've [25] consulted approximately six times on cases?	Page 16 [1] <i>Oz</i> [2] Q: And what was the subject matter [3] of that case? [4] A: This was a patient who had had a [5] successful heart operation, a 96-year-old [6] gentleman, who several days after going home [7] developed a cold and edematous right leg which [8] was argued to be due to the negligence of [9] physicians taking care the patient to notice an [10] injury to the femoral artery or vein. [11] Q: And how did that case resolve? [12] A: It resolved to the benefit of [13] the defense, [14] Q: It went to trial and there was a [15] verdict that was a defense verdict? [16] A: That is correct. [17] Q: Have you ever acted as an expert [18] in a case involving issues of surgeries that [19] were minimally invasive? [20] A: Not that I can remember. [21] I had been asked to review cases [22] that were done in unorthodox fashions, but not [23] ones I would consider minimally invasive. [24] Q: Okay, any cases that you have [25] been asked to consult on for medical legal

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[1] Oz [2] purposes that involved issues of cardiac [3] tamponade? [4] A: Not as an expert witness, no. [5] Q: Were you ever involved in a case [6] involving cardiac tamponade other than being an [7] expert witness? [8] MR. JACKSON: Are you asking him [9] in his care of patients? [10] MS. TOSTI: In any capacity. [11] Q: Were you involved in any type of [12] civil matters that involved the issues of [13] cardiac tamponade? [14] MR. JACKSON: Are you talking [15] about lawsuits or are you talking [16] about in his care of patients, Jeanne, [17] that's what I was asking? [18] MS. TOSTI: We were talking [19] about — let's say lawsuits. [20] MR. JACKSON: Okay. [21] Q: Have you been involved in any [22] lawsuits involving issues of cardiac tamponade [23] in which you did not serve as an expert? [24] A: I have personally not been [25] involved in such a lawsuit, but there have been	[1] Oz [2] hour. [3] Q: Do you know when the trial in [4] this matter is scheduled? [5] A: I do not, ma'am. [6] Q: And I take it, then, you haven't [7] been asked to come to Cleveland to testify as [8] yet? [9] A: I have not. [10] Q: Other than this case, have you [1] ever been consulted on a legal matter by [2] Mr. Jackson or anyone from his law firm? [3] A: I have not. [4] Q: Do you know how it is that you [5] came to be contacted in regard to this case? [6] A: I don't know specifically why in [7] this case, but I had been contacted by law [8] firms around country for a variety of different [9] types of cases, including cases that involve [10] bleeding. This is an area that I have some [11] expertise in. [12] Q: When were you first contacted on [13] this case? [14] A: I do not recall the exact date. [15] My letter was dated 1999, and I suspect that I
Page 18	Page 20
[1] Oz [2] lawsuits at this institution on that topic that [3] I have become involved with due my role as [4] director of the heart institute. [5] Q: Were you deposed? Did you [6] testify at trial in any of those cases? [7] A: I did not. [8] Q: Doctor, what is your charge for [9] consultation on legal matters? [10] A: It's generally a thousand [11] dollars per hour. [12] Q: And deposition testimony? [13] A: I believe I keep to that fee. [14] Frankly, I don't keep close track of that [15] either. [16] There's a fee schedule that I [17] made up several years ago. I am asked [18] frequently to get involved in cases and I [19] generally do not desire to participate. [20] So I arbitrarily picked a fee [21] schedule. I believe the thousand dollar figure [22] is correct. [23] Q: And what is your charge for [24] trial testimony? [25] A: The same, a thousand dollars per	[1] Oz [2] was probably contacted in the mid to latter [3] portion of that year for the first time. [4] Q: Do you recall who contacted you? [5] A: I believe it was Mr. Jackson. [6] Q: Have you ever been named as a [7] defendant in a medical negligence case? [8] A: I have. [9] Q: How many times? [10] A: Well, there was about — I would [1] say, again, about a half a dozen times. [2] I've never gone to trial on a [3] case that I was named in, so I don't actually [4] remember the exact number. [5] Q: Any of the times that you were [6] named as a defendant, were they ever resolved [7] through settlement or through jury verdict? [8] A: No, they were not. [9] Q: Are any of those cases currently [10] pending? [11] A: There are currently pending [12] cases, yes. [13] Q: How many? [14] A: I believe I have one case [15] pending. It was supposed to be dismissed, but

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[1] Oz [2] the defense lawyer withdraw from the case at [3] the — at the court appearance which was [4] supposed to result in the dismissal of the [5] case, so they were given 90 more days I guess [6] by the judge to find a new defense attorney. [7] I believe that's the only case [8] that I have outstanding. [9] MR. JACKSON: Probably mean the [10] plaintiff's lawyer. [11] THE WITNESS: I'm sorry, the [12] plaintiff's lawyer withdraw from the [13] case and it left the wife of the [14] diseased without an attorney, so the [15] judge allowed her some period of time [16] to find someone new. [17] Q: What was the allegation of [18] negligence in that case? [19] A: Doesn't seem to be a clear one [20] with me. I'm the director of the heart [21] institute at this institution. There was [22] another institution where the malpractice [23] allegedly occurred. The patient was being [24] transferred to this hospital and somehow my [25] name came up and so I was included.	[1] OZ [2] Q: Did any of those cases involve [3] cardiac tamponade? [4] A: None of those cases involved [5] cardiac tamponade. [6] Q: Since there are only six of [7] them, can you tell me what the allegation was [8] of negligence in those cases? [9] A: I was not prepared to discuss [10] this. I can find these and give you a more [11] detailed description. I don't have this [12] information readily available, and I would be [13] guessing in some instance what the actual [14] allegations were. [15] Many of these cases were [16] resolved so quickly that I didn't even get that [17] involved in what was going on. [18] For example, one of the cases I [19] can recall involved a transplant patient [20] several months after my transplant returning to [21] the hospital with an infection that was, [22] according to the family, diagnosed late, and so [23] they included the entire team including [24] surgeons who had not been taking care of this [25] gentleman for several months.
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[1] Oz [2] One of these half dozen cases I [3] was sued in, I never even met the patient. [4] So my connections to, in [5] general, these cases has been fairly difficult [6] for me to tease out. [7] Q: I didn't quite hear what you [8] said. [9] You mentioned there were six [10] cases and you said that in these half a dozen [11] cases you did not have direct care [12] responsibility; is that correct? [13] A: In one of the patients — in one [14] of the cases which has subsequently been [15] dismissed, I had never met the patient. [16] Q: Now in regard to the other five [17] or so, did you have direct care [18] responsibilities for the patient? [19] A: I was involved in their care, [20] although not necessarily the primary caretaker [21] for them. [22] Q: Did any of those cases involve [23] postoperative bleeding complications? [24] A: None of them involved [25] postoperative bleeding.	[1] OZ [2] So I don't recall again [3] specifically what the claim was against me. [4] I'd have to review those charts. [5] Q: Have you ever had your hospital [6] privileges called into question, suspended or [7] revoked? [8] A: I have not. [9] Q: Doctor, do you happen to have a [10] copy of your curriculum vitae with you? [11] A: I have it, yes. [12] Q: I was provided a copy of your [13] curriculum vitae by defense counsel, and I'm [14] wondering if it's current, up to date, any [15] additions you would like to make to it? [16] MR. JACKSON: What's the one you [17] have, Jeanne, updated as of when? [18] MS. TOSTI: December 7th of '99. [19] MR. JACKSON: This one that the [20] Doctor has a copy of in front of him [21] is updated as of March 29th, 2002. [22] It's typed on the top. [23] MS. TOSTI: Okay. [24] Jack, could I ask that you [25] provide me with a copy of that?

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[1]	Oz	[1]	02
[2]	MR. JACKSON: Sure.	[2]	relevant.
[3]	Q: And then I would just ask,	[3]	Q: Doctor, would you tell me what
[4]	Doctor, in regard to your updated curriculum	[4]	areas of medicine you are Board certified in?
[5]	vitae, are there any additions or corrections	[5]	A: I'm Board certified in general
[6]	that you'd like to make to it?	[6]	surgery and in cardiothoracic surgery.
[7]	MR. JACKSON: You mean to this	[7]	Q: And when did you receive those
[8]	one?	[8]	two certifications?
[9]	MS. TOSTI: Yes, the one that	[9]	A: My certificate by the American
[10]	you have.	[10]	Board of Surgery was 1992, and by the American
[11]	A: This looks up to date as much as	[11]	Board of Thoracic Surgery was 1994.
[12]	possible. So — so this is fine.	[12]	Q: And did you pass both of those
[13]	Q: Okay. Doctor, you have quite a	[13]	certifications on your first attempt?
[14]	few articles on your curriculum vitae, the	[14]	A: I did.
[15]	older one I have, I'm sure on the one that you	[15]	Q: Has your medical license ever
[16]	have.	[16]	been suspended or revoked or called into
[17]	As you sit here today, are there	[17]	question?
[18]	any particular articles that you feel have	[18]	A: It has not.
[19]	particular significance to the issues in this	[19]	Q: Where do you have hospital
[20]	case?	[20]	privileges?
[21]	A: So if I understand correctly,	[21]	A: I have hospital privileges at
[22]	you're asking which of the articles in my	[22]	Columbia Presbyterian Medical Center. I have
[23]	curriculum vitae are relevant to this case?	[23]	hospital privileges at St. Michael's Medical
[24]	Q: No, I'm asking if there are any	[24]	Center in Newark.
[25]	that you feel have particular significance, as	[25]	Q: And have your hospital
Page 26		Page 28	
[1]	Oz	[1]	Oz
[2]	you sit here today, to the issues as you	[2]	privileges ever been suspended, revoked or
[3]	understand them in this case?	[3]	called into question?
[4]	A: I do believe some of them are	[4]	A: They have not.
[5]	significant and I believe are directly	[5]	Q: At any time have you had a
[6]	pertinent to this case.	[6]	professional relationship with the Cleveland
[7]	They're articles I've written on	[7]	Clinic?
[8]	minimally invasive heart surgery. There's a	[8]	A: We have not.
[9]	book that I edited on that topic.	[9]	Q: Have you ever done any training
[10]	Q: Doctor, are they identified by a	[10]	at the Cleveland Clinic?
[11]	number in your curriculum vitae?	[11]	A: I have visited the Cleveland
[12]	A: They are. An example of an	[12]	Clinic. It was not part of a formal course.
[13]	article would be number 158, which I am the	[13]	Q: When did you visit the Cleveland
[14]	first author.	[14]	Clinic?
[15]	Q: Could you give the name of that	[15]	A: In 1993.
[16]	please?	[16]	Q: And what was the reason for your
[17]	A: It's called, What Is "Minimally	[17]	visit?
[18]	Invasive" Coronary Bypass Surgery.	[18]	A: I was asked by my department to
[19]	And the book is number three,	[19]	travel around the world to see ten top
[20]	and it's called, Minimally Invasive Cardiac	[20]	facilities and get an idea of how they did
[21]	surgery: State of the Art Techniques.	[21]	things both programmatically, but also specific
[22]	Q: All right, any others that you	[22]	procedures, and the Cleveland Clinic was on
[23]	think have particular significance as you sit	[23]	that list.
[24]	here today?	[24]	Q: And how much time did you spend
[25]	A: I believe those are the two most	[25]	at the Cleveland Clinic at that time?

Page 29 [1] Oz [2] A: About ten days. [3] Q: And while you were there, did [4] you ever have an opportunity to observe or to [5] work with Dr. Cosgrove? [6] A: I did. [7] Q: Did you observe him in surgery? [8] A: I did. [9] Q: And aside from that, what else [10] did you do with Dr. Cosgrove while you were [11] visiting there? [12] A: That was the extent of my [13] interaction with Dr. Cosgrove at that time. [14] Q: What was your impression when [15] you observed at the Cleveland Clinic? [16] Did you bring back any [17] particular information in regard to that visit [18] to Cleveland Clinic specifically? [19] A: I was very impressed by the [20] efficiency of the institution. They had built [21] an infrastructure designed to maximize the [22] quality of care of patients; ranging from the [23] person who greeted the patient at the through [24] the nursing staff in the ICUs on the floor, [25] including the top surgeons on the team.	Page 31 [1] OZ [2] assist devices. [3] Q: And is that the only research [4] project in regard to ventricular assist devices [5] that you're participating in with Cleveland [6] Clinic? [7] A: There are, in addition, research [8] projects which we have completed looking at [9] products to reduce the amount of bleeding after [10] heart surgery. [11] Q: What type of products? [12] A: There was one product in [13] particular that is made from silicone balls [14] that are coated with fibrin, and these would [15] swell and slow the bleeding from suture lines [16] in patient's who are prone to bleeding. [17] Q: So there's one project that [18] dealt with ventricular assist devices, one that [19] dealt with products to reduce bleeding. [20] Any other research projects with [21] the Cleveland Clinic? [22] A: Those are the ones that come to [23] mind. [24] Q: And what are your [25] responsibilities, or what were your
Page 30 [1] Oz [2] Q: Have you ever participated — [3] MR. JACKSON: Jeanne, I don't [4] think he finished his answer. [5] MS. TOSTI: Sorry. [6] Go ahead, Doctor. [7] A: It was a role model, I think, [8] ten years ago that has been emulated by other [9] programs around the country for that reason. [10] Q: Have you ever been involved in [11] conjunction with the Cleveland Clinic on any [12] research that you have been doing? [13] A I have. [14] Q: What research have you done in [15] conjunction with the Cleveland Clinic? [16] A: There are several research [17] projects involving new technologies that we [18] have combined our patients together in order to [19] create a large enough group to be able to draw [20] conclusions. [21] Q: And what is the research [22] questions that you're investigating? [23] A: We have particularly strong [24] relationships in the area of mechanical support [25] devices for the heart including ventricular	Page 32 [1] Oz [2] responsibilities in regard to those two [3] research projects? [4] A: I was the principal investigator [5] at this site on the bleeding product study, and [6] I worked closely with the principal [7] investigator, Eric Rose, who led the mechanical [8] device research project. [9] Q: And where was he located? Was [10] he at Cleveland Clinic? [11] A: No, he's at my institution, [12] Columbia Presbyterian. [13] Q: And who were the chief [14] investigators at the Cleveland Clinic for their [15] portion of the research project? [16] A: Patrick McCarthy, [17] M-C-C-A-R-T-H-Y, was the lead investigator on [18] the VAD project, and Dr. Cosgrove was the lead [19] investigator on the bleeding project. [20] Q: The project, the bleeding [21] project, is that still open or has that been [22] concluded? [23] A: No, it was concluded, I believe, [24] two years ago. Perhaps even three years ago. [25] Q: And since you were involved with

	Page 35
[1] Oz [2] that, did you have involvement with [3] Dr. Cosgrove to the point where you were [4] discussing findings or trading information, [5] meeting with him, speaking with him on the [6] phone while this project was going on? [7] A: We didn't interact very much [8] during the project because it was being done [9] for a company that had hired or that was a [10] clinical research organization. [11] So they were in charge of [12] tabulating everyone's data. [13] By the way, that study involved [14] half a dozen centers and so all the data was [15] brought together and distributed to the [16] investigators, and although I wrote the paper [17] that subsequently came from the research [18] project, it was reviewed by each of the [19] different site surgeons and those were given [20] back to me in a written format. [21] So we had very limited [22] interaction on this. [23] Q: Aside from the fellowship that [24] you previously mentioned that took place a [25] while ago, have you visited the Cleveland	[1] Oz [2] Monday. [3] Q: And what was that in regard to? [4] A: There was a very big debate — [5] organized debate at the major heart meeting [6] that we have in the spring called the AATS or [7] American Association of Thoracic Surgery, and [8] the debate pitted me against Dr. Cosgrove and a [9] third surgeon. [10] Q: What was the issue? [11] A: Appropriate selection of valves, [12] aortic valves for patients who had aortic [13] disease. [14] Q: And what was the — I take it [15] that you were on one side of the fence and he [16] was on the other side of the fence on that [17] particular issue? [18] A: Well, the specific format, it [19] was desired to keep the discussion brisk, was I [20] pretended to be the patient, sort of a [21] curmudgeon who was argumentative and kept [22] pushing the two surgeons who I was seeing in [23] consultation, one being Dr. Cosgrove and the [24] other Dr. David, who was a surgeon in Canada, [25] and I asked each of them separately questions
	Page 36
[1] Oz [2] Clinic other than that in regard to these [3] research projects? [4] MR. JACKSON: Jeanne, when you [5] said "fellowship" which — what are [6] you talking about? [7] MS. TOSTI: He has a traveling [8] fellowship that he just talked about [9] that involved the visit to the [10] Cleveland Clinic. [11] MR. JACKSON: Okay. [12] MS. TOSTI: And we spoke about [13] that just a minute ago. [14] Q: And aside from that, did these [15] two research projects ever involve him going to [16] the Cleveland Clinic? [17] A: Neither of these projects [18] involved me going to the Cleveland Clinic. [19] Q: Have you ever had any [20] discussions with anyone at the Cleveland Clinic [21] regarding employment with the Cleveland Clinic? [22] A: I have not. [23] Q: When is the last time that you [24] spoke with Dr. Cosgrove? [25] A: I spoke to Dr. Cosgrove last	[1] Oz [2] to challenge the advice they were giving me [3] about what they thought I should do if I were [4] the patient. [5] Q: And what was your conclusion [6] from the patient's perspective? [7] A: I — if I was the patient I [8] would have picked a tissue valve because I did [9] not want to take anticoagulation and I was [10] pushing Dr. Cosgrove specifically to show data [11] about whether there was a difference between [12] tissue valves and mechanical valves, and also [13] whether or not the size of the valve made a [14] difference. [15] Q: And was Dr. Cosgrove's position [16] at least from that debate that the mechanical [17] valves were recommended? [18] A: No, He believes that a [19] mechanical valve should be avoided because of [20] the risk of Coumadin, which is a blood thinner [21] required by these patients. [22] Q: In regard to this particular [23] debate, where did you say that it took place? [24] A: In Washington, DC. [25] Q: And did it require that you work

	Page 39
[1] Oz [2] with Dr. Cosgrove prior to the time the [3] presentation was made? [4] A: No, we met about 45 minutes [5] before the official debate started so that I [6] could give both he and Dr. David an idea of the [7] tone I would take as a patient. [8] Not the specific questions [9] because we wanted spontaneity. I wanted to [10] make it clear I was going to be a very tough [11] patient. [12] Q: And how long did the actual [13] presentation take? [14] A: The debate was scheduled for an [15] hour, and I believe it took roughly that long. [16] Q: And prior to that incident when [17] you spoke with Dr. Cosgrove, when was the time [18] before that that you last spoke with him? [19] A: I actually don't recall the [20] prior discussion. [21] I would say I probably speak to [22] Dr. Cosgrove once every six months or so [23] regarding some issue in cardiac surgery. [24] Actually, I believe the last [25] time I saw him or spoke to him before that was	[1] Oz [2] employer? [3] A: Columbia University. [4] Q: And aside from Columbia [5] University do you provide professional services [6] for any other entities? [7] A: I am asked by many different [8] groups to give talks around the country. [9] And I often charge for that, and [10] that is a revenue that I get. [11] Q: Aside from honorariums that you [12] may get for presentations, do you have any [13] other employers beside Columbia University? [14] A: No. [15] When you say "employers," do you [16] mean people who pay me a fee daily or monthly [17] for some task I perform? [18] Q: Yes. [19] A: No, I do not. [20] Q: And in regard to the research [21] that you perform, are you — do you have income [22] from any research that — separate from what [23] you do at Columbia University? [24] A: I don't have income from the [25] research itself. I do have consulting
Page 38	Page 40
[1] Oz [2] in January. And we were speaking about some of [3] the challenges for device companies in this [4] country. [5] Q: Have you ever spoken to him [6] about this case? [7] A: I've never discussed this case [8] with Dr. Cosgrove. [9] Q: Have you ever worked with [10] Dr. Gregory Muehlebach? [11] A: I have never worked with him. I [12] have met him once. [13] Q: When did you meet him? [14] A: There was a talk I was asked to [15] give in Lehigh Valley. It was the middle of [16] the 1990s when he was still at the Cleveland [17] Clinic and he was also asked to speak at that [18] symposium. [19] And I met him at the time of [20] that discussion. [21] Q: What were you speaking on? What [22] was the topic? [23] A: I don't recall exactly but I [24] believe it was on mechanical heart devices. [25] Q: Doctor, who is your present	[1] Oz [2] arrangements with companies who desire that I [3] participate on their boards or play a role in [4] development of products or clinical trials. [5] Q: Okay. And you haven't acted [6] as — have you ever acted in a consulting [7] capacity for Cleveland Clinic? [8] A: I have not. [9] Q: Doctor, is your current medical [10] practice limited to cardiothoracic surgery? [11] A: It is. [12] Q: Do you limit your practice to [13] any particular type of cardiothoracic surgery? [14] A: I limit it to cardiac surgery. [15] Q: Okay. But in regard to the type [16] of surgical procedures that you perform, are [17] there any limitations on cases that you do do [18] and other cases that you don't do? [19] A: I no longer do pediatric complex [20] cases. We have specialists here that I believe [21] do that better than I. [22] Q: Okay. And approximately how [23] many surgeries do you personally participate in [24] the course of say a week? [25] A: I do approximately 400 cases a

Page 41 [1] Oz [2] year. So if we divide that by 52, it's about [3] eight cases a week. [4] Q: And do you personally perform [5] aortic valve replacement surgery? [6] A: Yes, I do. [7] Q: And approximately how many do [8] you do in the course of a week or a month, [9] whatever would be easiest for you to [10] approximate? [11] A: I can, again, get these numbers [12] exactly, but I would estimate 75 to 100 a year. [13] So nearly two a week. [14] Q: I'd like you to describe for me [15] your professional responsibilities and how you [16] divide your professional time. [17] What percentage of your [18] professional time do you spend in research, [19] administrative duties, clinical practice, [20] academics, medicine? [21] A: I would say I spend 10 percent [22] of my time on administrative challenges, [23] 15 percent on research endeavors, and [24] 75 percent practicing clinical medicine. [25] Q: Now, based on the CV that I	Page 43 [1] OZ [2] A: There are several that they [3] read. I can list a few if you wish. [4] There's Edmunds book [5] E-D-M-U-N-D-S. There's a Sabiston book. [6] There's a Schwartz book. [7] And students can migrate to one [8] or the other depending on their personal [9] desire. [10] Q: Are you familiar with A Text by [11] John Kirklin and Brian Carret-Boyes Cardiac [12] Surgery? [13] A: I know the books, yes. [14] Q: Do you find that information [15] contained in those books accurate and reliable? [16] A: Again, in general, I find these [17] to be out of date by the time I review them. [18] Generally I'm looking for fairly [19] technical information from these books and I [20] generally don't find them, so I don't rely on [21] them. [22] Q: Doctor, as it relates to cardiac [23] surgery, what does the term "minimally [24] invasive" mean? [25] A: Well, I'll give you a definition
Page 42 [1] Oz [2] have, you do have an academic appointment; is [3] that correct? [4] A: That is correct. [5] Q: Could you tell me what your [6] responsibilities entail in regard to your [7] academic appointment? [8] A: I have responsibilities on the [9] research committee to review projects that are [10] put forth for funding to our department. [11] I have responsibilities [12] teaching, training the fellows and general [13] surgery residents who rotate through the [14] cardiothoracic service, and I'm usually asked [15] to give two lectures a year to the medical [16] students. [17] Q: Is there a particular medical [18] text on cardiovascular surgery that you [19] recommended to your students? [20] A: Recommend any particular text. [21] They are frequently out of date by the time [22] they are published. [23] Q: Is there any medical text that [24] is currently being used by the students in [25] regard to cardiovascular surgery?	Page 44 [1] Oz [2] that I've used frequently, but I should say at [3] the outset that I don't think there is any one [4] definition for this very ambiguous term. [5] But for me minimally invasive [6] means surgery designed to improve the quality [7] life of the patient more than the traditional [8] approach might. [9] Q: And in what way would it improve [10] the quality of life for the patient? [11] A: There are many different ways it [12] could occur, which is why there are so many [13] different procedures that are termed minimally [14] invasive. [15] I also should also caution the [16] magnitude of improving quality of life varies [17] dramatically between different types of alleged [18] minimally invasive procedures. [19] But the options include [20] improvement of cosmetic result, it could be [21] reduction of trauma to major musculoskeletal [22] structures, and it could involve avoidance of [23] cardiopulmonary bypass or the heart lung [24] machine. [25] Q: And does the term "minimally

Page 45 [1] OZ [2] invasive” have the same meaning now as it did [3] back in 1996 when James Long had his surgery? [4] A: I believe the same ambiguity [5] exists today as did then. [6] Q: Now currently doesn’t it imply [7] that a surgical procedure is being done without [8] placing the patient on cardiopulmonary bypass? [9] A: No, that’s not correct. [10] For patients who are having open [11] heart surgery for coronary disease, there is an [12] option which many will call minimally invasive [13] of not placing the patient on the heart lung [14] machine and doing the operation with a beating [15] heart. [16] For valve disease that’s not [17] feasible, and for that reason when valve [18] procedures are termed “minimallyinvasive,” it [19] almost always refers to reduction of trauma of [20] the chest wall. [21] In other words, less injury to [22] the sternum, which is the breast plate, or less [23] injury to the chest wall where the ribs are [24] divided. [25] Q: Do you have any specific	Page 47 [1] Oz [2] Q: How many do you do in a week or [3] amonth? [4] A: Again, if we include the beating [5] heart operations for coronary bypass surgery [6] and procedures that involve either a robotic [7] system or a small incision for a valve, it is [8] probably somewhere between 60 and 100 cases a [9] year. [10] Q: And if you take away the beating [11] heart type, how many cases minimally invasive [12] do you do? [13] A: I would say I do at least one a [14] week. [15] Q: When did you first start doing [16] minimally invasive surgeries? [17] A: Probably 1994,1995, in that [18] time period. [19] Q: And are you currently involved [20] in any research dealing with any issues of [21] minimally invasive surgery? [22] A: Yes, I am. [23] Q: Can you tell me what it is [24] you’re investigating in that research that [25] deals with minimally invasive surgery?
Page 46 [1] OZ [2] training in minimally invasive cardiac surgery [3] procedures? [4] A: I’ve trained many, many, many [5] courses in minimally invasive surgery. Without [6] being falsely modest, I’m one of the [7] inaugurators of the field and, in fact, one of [8] the textbooks in my curriculum vitae that you [9] referred to earlier is often regarded as one of [10] the premier textbooks on this topic. [11] So although I traveled around [12] the world, as I mentioned earlier, to see how [13] people did things, much of what I do was [14] started as we did it. [15] Q: So you consider yourself more or [16] less a pioneer in this particular type of [17] surgery? [18] A: I do. [19] Q: And do you consider Dr. Cosgrove [20] also on that same level with you? [21] A: Definitely. [22] Q: And do you currently personally [23] do minimally invasive cardiac surgery [24] procedures? [25] A: I do.	Page 48 [1] OZ [2] A: I’m the principal investigator [3] in trial where we’re trying to see if the [4] neurocognitive changes, in other words the [5] stroke rate and the ability of patients to [6] think normally after surgery, is altered by [7] doing minimally invasive procedures. [8] Q: Is the site for that study just [9] at Columbia Presbyterian? [10] A: It is my hospital and [11] St. Michael’s Hospital in Newark. [12] Q: And have you collected any data [13] at this point where you started to analyze your [14] findings? [15] A: We have not. The trial is not [16] complete yet. [17] Q: Doctor, we went through what [18] information was in your file. [19] Have you had an opportunity to [20] review the reports of plaintiff’s experts in [21] this case, Dr. Vernon Smith, Dr. Steve Menori [22] and the nursing expert, Mary Jane Smith? [23] I didn’t recall that those were [24] mentioned in any of the materials that we [25] marked as exhibits.

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[1] Oz [2] A: I recall reading the depositions [3] of the two physicians Smith and Menori prior to [4] our initial scheduled deposition which I [5] believe was in February. [6] And which nurse was it? [7] MR. JACKSON: I can tell you, [8] Jeanne, that he did not review any [9] reports of nurses. [10] He was sent the report of [11] Dr. Smith, and I believe he saw the [12] report of Dr. Minore also, but I do [13] not recall that. [14] Q: Have you seen the reports of any [15] of the defense experts in this case, [16] Dr. Jeffrey Vender or Dr. Timothy Lyons? [17] MR. JACKSON: The answer to that [18] is no, Jeanne, I don't — we did not [19] send him reports, although he did [20] review Dr. Vender's deposition, as he [21] told you. [22] Q: Have you reviewed any films of [23] James Long's cardiac past? [24] A: I do not recall seeing the [25] actual films.	[1] Oz [2] A: No, I did not. [3] Q: And how about in preparation for [4] this deposition, did you refer to any materials [5] aside from what you have in your file? [6] A: No, I did not. [7] Q: Did you consult with any [8] physicians at any time regarding this case? [9] A: I have not talked to a physician [10] about this case. [11] Q: And prior to accepting this case [12] for review, did you have any contact with any [13] of the medical providers named in the medical [14] records other than what you've already told me [15] about? [16] A: No, I've not spoken to any of [17] them nor had I spoken to them prior to [18] accepting this assignment. [19] Q: Have you ever had any contact at [20] any time with Dr. Timothy Lyons or Dr. Jeffrey [21] Vender? [22] A: I have not. [23] Q: And what about in regard to [24] plaintiff's experts that have been identified [25] in this case?
Page 50	Page 52
[1] Oz [2] I do recall seeing the reports [3] of the studies done. [4] Q: Have you reviewed any echo film? [5] A: I do not believe so, no. [6] Q: At any time when you were [7] reviewing materials, did you request that [8] defense counsel send you something additional [9] other than what you were originally given? [10] A: I did not require additional [11] records. [12] MR. JACKSON: I don't remember [13] that you asked for anything additional [14] in terms of materials. [15] A: I don't believe so, no. [16] I was given depositions as they [17] were done by the two physicians, Smith and [18] Minore, but nothing else. [19] Q: And the depositions that you've [20] been provided, have you read all those [21] depositions? [22] A: I have. [23] Q: In formulating your opinions in [24] this case, did you refer to any medical [25] literature; journals, articles, textbooks?	[1] Oz [2] A: I do not know them. [3] Q: Do you have any personal notes [4] on this case? [5] A: I don't believe so, no. [6] The notes I had I included in my [7] note to Dr. — to Mr. Jackson on November 19th, [8] 1999. [9] Q: In your experience what is the [10] incidents of reexploration for postoperative [11] bleeding complications in patients who have [12] undergone aortic valve replacement? [13] A: Between 3 and 5 percent. [14] Q: And in your practice have you [15] taken patients back for reexploration because [16] of postoperative bleeding? [17] A: I have. [18] Q: And what percentage of the [19] patients that you've taken back have come [20] through reoperation neurologically intact? [21] A: Most have survived the [22] reoperation. [23] There are some groups that are [24] higher risk than others, but most will survive [25] the reoperation.

Page 53 [1] Oz [2] Q: What would make them high risk? [3] A: Patients who have significant [4] degree of right heart failure is one example, [5] because they are fairly difficult to manage. [6] Q: In what way? [7] A: They tend to decompensate very [8] quickly in that they will start dropping their [9] blood pressure and will be difficult to [10] maintain as they suffer progressive right heart [11] failure. [12] Q: Okay. Take any precautions when [13] you know someone has right ventricular [14] problems? [15] A: Sometimes we don't close the [16] chest at the first operation to avoid pressure [17] on the right ventricle. [18] There is drugs that we will [19] sometimes use like nitric oxide. It's a [20] relatively recent drug that was not available [21] in 1996. [22] Q: Do patients with right [23] ventricular problems bare close watching for [24] signs of decompensation after aortic valve [25] replacement?	Page 55 [1] Oz [2] replacement surgery utilizing minimally [3] invasive techniques? [4] A: I do. [5] Q: And how many of those have you [6] done in the last week or month, whatever would [7] be easiest for you to approximate? [8] A: I probably do one of those a [9] month. [10] I think that operation is a [11] wonderful one in the correct indications, but [12] if the patient needs bypass surgery in addition [13] to the aortic valve, or if they're — if they [14] require an additional procedure like another [15] valve, then I think it is a difficult operation [16] to do, so we use the more conventional [17] traditional sternotomy. [18] Q: Now, James Long had what I [19] believe was described in the operative report [20] as a minimally invasive procedure with a [21] transverse sternotomy between the second and [22] third interspaces. [23] Have you utilized that surgical [24] technique or approach in doing aortic valve [25] replacements?
Page 54 [1] Oz [2] A: They warrant the same careful [3] observation that all patients desire. They are [4] just more difficult to manage. [5] Q: So they would require close [6] management then? [7] A: They do require close [8] management. [9] Q: Now, Doctor, I think you told me [10] that you do do aortic valve replacement surgery [11] in your practice, correct? [12] A: I do. [13] Q: And refresh my memory, did you [14] say how often in the last week or month you've [15] done an aortic valve? [16] A: Well, I did one yesterday and I [17] did one on Monday. [18] Q: Okay. [19] A: So I do them fairly frequently. [20] It's one of the most common operations I do. [21] Q: Several times a week an average [22] would you say? [23] A: Yes, I think I do about a [24] hundred a year. So it's about two a week, [25] Q: Do you currently do aortic valve	Page 56 [1] Oz [2] A: I have used one very similar to [3] that that we've modified. But it is [4] essentially that operation. [5] Q: When's the last time you've done [6] that type of operation? [7] A: Within the last three weeks. [8] Q: Have you done minimally invasive [9] using that transverse sternotomy or is [10] transverse sternotomy considered a minimally [11] invasive procedure? [12] A: It is considered minimally [13] invasive and I have done the operation with [14] that approach. [15] Q: Is there a particular surgical [16] approach that you favor in doing minimally [17] invasive valve replacements? [18] A: For the aortic or mitral [19] position? [20] Q: For the aortic. [21] A: I generally start a transverse [22] incision and then stop in the middle and then [23] cut up to the neck. [24] So I take a little wedge of the [25] sternal bone rather than transecting it.

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[1] Oz
[2] Q: And is there a reason why you
[3] favor that particular procedure?
[4] A: If I have a problem with my
[5] exposure during the course of the operation it
[6] affords me the ability to convert it to a
[7] traditional sternotomy.
[8] Q: Are there any disadvantages to
[9] using a transverse sternotomy similar to what
[10] was described in James Long's operative report?
[11] A: I don't know how much of a
[12] disadvantage it is, but you divide the mammary
[13] artery, at least on one side, frequently to do
[14] that procedure, and that artery sometimes is of
[15] value in patients who need bypass surgery.
[16] Q: Are there any particular
[17] indications for doing aortic valve replacements
[18] by minimally invasive techniques as opposed to
[19] full median sternotomy?
[20] I think you mentioned one you
[21] would do a full sternotomy if you also needed
[22] to do bypass surgery.
[23] But are there any other
[24] indications for doing aortic valve replacements
[25] by minimally invasive techniques?

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[1] Oz
[2] A: The major indications are
[3] individuals who are fairly big and for whom
[4] you're concerned that the sternum will not heal
[5] well after surgery. And there are some
[6] patients who feel strongly about the cosmetic
[7] benefits of a smaller incision.
[8] Those tend to be the two more
[9] prevalent reasons why we do it.
[10] Q: And are there any
[11] contraindications for doing aortic valve
[12] replacement by minimally invasive techniques in
[13] a patient that has been cleared for full median
[14] sternotomy valve replacement aside from if
[15] you're going to do CABG with it?
[16] A: There are a variety of other
[17] operations that you could also need to do on
[18] the patient.
[19] For example, a mitral valve
[20] operation or a maze operation.
[21] That would also lead you to not
[22] want to do a minimally invasive approach.
[23] But to clarify, if the question
[24] is for an isolated aortic valve operation are
[25] there contraindications to the minimally

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[1] Oz
[2] invasive approach used by Dr. Cosgrove and
[3] others, I believe the answer is no.
[4] Q: Doctor, is it true that when a
[5] new valve, new aortic valve, is placed that
[6] there's frequently a problem with blood
[7] pressure being too high?
[8] A: That's correct.
[9] Q: And is that because of the fact
[10] that the ventricle, the left ventricle, has
[11] hypertrophied because of the stenosis?
[12] A: It's partially related to that,
[13] yes.
[14] Q: What else is it related to
[15] beside that?
[16] A: The baroreceptors that regulate
[17] blood pressure are — need to communicate with
[18] the heart muscle to coordinate your blood
[19] pressure.
[20] And in patients with severe
[21] aortic stenosis, that communication system is
[22] faulty because it's been misled for so long by
[23] the diseased valve.
[24] Q: Do the majority of your aortic
[25] valve replacement patients require epinephrine

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[1] Oz
[2] support to maintain their blood pressure at 90
[3] or above systolic?
[4] A: At the — this is a cultural
[5] thing, but in my institution we use Levophed
[6] instead of epinephrine. That is our usual
[7] first drug, and our second drug is Primacor.
[8] We do use drugs, it just doesn't
[9] have to be epinephrine.
[10] Q: Okay, and let me rephrase my
[11] question then.
[12] Do the majority of your aortic
[13] valve replacement patients require Levophed and
[14] Primacor after surgery to maintain their blood
[15] pressure at least 90 systolic?
[16] A: NO.
[17] Q: How often would you say that you
[18] would be required to utilize two vasopressors
[19] to maintain an aortic valve replacement
[20] patient's blood pressure at 90 systolic?
[21] A: Primacor is not, strictly
[22] speaking, a vasopressor, it's an inotropic.
[23] By that I mean its primary
[24] function is not to constrict the vasculature
[25] but to stimulate the heart function.

Page 61 [1] OZ [2] And epinephrine when we use it [3] is also used primarily for that purpose. We [4] don't use epinephrine as a vasoconstrictor, [5] although at high doses it will serve that role [6] also. [7] So I would say probably [8] 15 percent of our cases are on a vasopressor [9] like Levophed and some type of an inotropic [10] agent like Primacor or epinephrine. [11] Q: Would you agree that when a [12] postoperative cardiac surgery patient exhibits [13] hemodynamic instability, prudence demands you [14] not only treat the instability but you look for [15] the cause of the instability? [16] A: Prudence clearly would indicate [17] that you look for causes, But the causes, [18] generally speaking, in this kind of a patient [19] are only identified by treating the problem. [20] It's not so much that you have a [21] clear test that can tell you exactly what's [22] going on, but rather in the course of treating [23] the problem the concoction of solutions you [24] come up with will often reveal what the [25] problem — the underlying problem was.	Page 63 [1] Oz [2] first six hours due to a variety of [3] inflammatory chemicals that are released in the [4] bloodstream as a result of the operation. [5] Q: While at six hours after surgery · [6] would you expect that the aortic valve [7] replacement patient's cardiac index would be [8] close to what it was in surgery? [9] A: Not necessarily, I would have [10] to put the whole picture together, including [11] the central venous pressure, what medications [12] they're on, and if there's other information [13] that's of merit. [14] For example, patient who is [15] waking up or not, these are all issues that [16] will impact that number quite dramatically. [17] Q: When a patient's cardiac index [18] decreases, doesn't the coronary perfusion also [19] go down? [20] A: When the cardiac index reduces, [21] is released — decreases, the coronary [22] perfusion may or may not go down depending on [23] the blood pressure and the intraventricular [24] pressure. [25] In addition, as the cardiac
Page 62 [1] OZ [2] Q: What information does cardiac [3] index give you about a patient's heart [4] function? [5] A: Cardiac index provides [6] information that one by one is not of that much [7] value but for trending purposes can be [8] indicative of whether the primary issue is the [9] heart or the body. [10] Q: So looking at a series of [11] cardiac indexes is valuable from the [12] perspective of the clinician to determine if [13] there's a problem with the patient, correct? [14] A: It could be of value, yes. [15] Q: Does a patient's cardiac index [16] in surgery correlate in any way with [17] expectations for the cardiac index at some [18] point after the surgery? [19] A: I would say that the index at [20] the very end of the operation is probably [21] reflective of the early course. [22] But immediately coming after — [23] coming off the heart lung machine the index is [24] often not that predicative, and we expect in [25] most patients that there will be a sag over the	Page 64 [1] OZ [2] index decreases, the energy consumption by the [3] heart usually decreases also. [4] Q: Well, if the cardiac index goes [5] down and the blood pressure also goes down, [6] does the coronary perfusion go down? [7] A: As — if the intraventricular [8] pressure stays stable, yes. [9] Q: And what parameters do you look [10] at to find out if the intraventricular pressure [11] is stable? [12] A: Well, we don't have catheters [13] that will comfortably measure that. [14] We generally assume that it will [15] trend down with the patient's blood pressure. [16] But if you're asking me as a [17] scientist, it's a more complicated question [18] than what the actual blood pressure is. But it [19] tends to be, for a thumbnail sketch purposes, a [20] reasonable description. [21] Q: So if a patient's — an aortic [22] valve patient has a falling cardiac index, does [23] that suggest that there may be a problem with [24] cardiac function? [25] A: It suggests it's one of the

Page 65	Page 67
[1] Oz [2] things you have to think about in your [3] differential. [4] Q: Is there a preferred range for [5] cardiac index within which you like to see [6] aortic valve replacement patients maintained? [7] A: With aortic valve surgery in [8] particular, you need to be careful about having [9] too high a blood pressure usually more than too [10] low a blood pressure because they have suture [11] lines that will bleed if exposed to a high [12] pressure. [13] So I generally, for aortic valve [14] surgery, prefer low cardiac indices between 1.8 [15] and 2.5. And I try to keep the blood pressure [16] lower, never letting it go above [17] 150-millimeters in mercury. [18] Q: Do you have a bottom line for [19] the blood pressure that you like to maintain [20] for a patient? The lowest systolic you like to [21] keep the patient at? [22] A: I prefer to keep the systolic [23] pressure above 90 if I can. [24] Q: If a cardiac output falls after [25] surgery, would you agree the surgeon needs to	[1] Oz [2] So if the perfusion pressure to [3] the head is enough to keep the capillaries [4] saturated with blood, then it doesn't really [5] matter. [6] Which is why in children the [7] pressure is always less than that number of 50 [8] and they don't ever have brain problems from [9] that. [10] So we actually will check a [11] mixed venous oxygen saturation if we are [12] concerned about that number. [13] If the mixed venous saturation [14] is acceptable, you can have a blood pressure of [15] 50 for hours and not have any significant [16] increased risk of neurological damage. [17] Q: And what saturation do you [18] consider to be adequate? [19] A: 50 percent. [20] I want 50 percent of your blood [21] saturated on the venous side. [22] Q: And if you are running low mean [23] arterial pressures, is that a test you would [24] routinely do for a patient to check on the [25] venous saturation?
Page 66	Page 68
[1] OZ [2] investigate whether the fall is due to cardiac [3] tamponade? [4] A: Yes. [5] Q: What's the minimal level of mean [6] arterial pressure needed to maintain cerebral [7] perfusion? [8] A: It depends on the age of the [9] patient and how reactive their head vessels [10] are. [11] For someone who is free of [12] coronary disease, if we can assume their head [13] vessels are also free of blockages, then [14] ideally I would like a mean pressure greater [15] than 50 to keep the head well perfused. [16] Q: And if the mean arterial [17] pressure falls below 50, is there an increased [18] risk for brain damage? [19] A: If it's for a prolonged period I [20] think there would be a risk for brain injury, [21] yes. [22] Q: What do you mean by "prolonged"? [23] A: The reason I'm hesitating is I'm [24] less concerned about the actual pressure than [25] the perfusion, and they're not the same thing.	[1] OZ [2] A: If it was low enough that I was [3] concerned that I was having end organ injury, [4] including to the head, that is one of the tests [5] that I would run. [6] Q: When a cardiac surgery patient [7] leaves a surgical suite at Columbia [8] Presbyterian, what type of unit do they go to? [9] A: It's called the open heart [10] recovery room. [11] It's a unit designed for 12 [12] hours of support through the evening and that [13] will allow patients who do well to be [14] expeditiously moved up to the floor. [15] Q: Is there just one of those open [16] heart recovery units? [17] A: There is, that's correct. [18] Q: How many beds are in that unit? [19] A: Sixteen. [20] Q: And are postoperative cardiac [21] surgery patients the only type of patients that [22] are in that unit? [23] A: Generally, yes. [24] They're — by that I also [25] include lung transplants and other operations

Page 69	Page 71
[1] Oz [2] that require cardiac pulmonary bypass. [3] Q: Who provides the medical [4] coverage for the open heart recovery unit? [5] A: There's an anesthesiologist who [6] will take a call and the senior [7] anesthesiologist is the medical coverage. [8] Q: Do attending surgeons provide [9] services in the ICU? [10] A: They will come by and round on [11] the patients. [12] They're used more as consultants [13] than primary decision makers. [14] Q: Do you have surgical residents [15] or fellows on 24-hour call for the open heart [16] recovery unit? [17] A: We have them available for the [18] open heart recovery unit 24 hours a day, but [19] they aren't necessarily there or even close by. [20] Q: Do the nurses if there's a [21] problem in the unit first call the [22] anesthesiologist on call; is that the [23] procedure? [24] A: That's correct. [25] Q: And I take it there's no	[1] Oz [2] patient's heart. [3] Q: And can you have a localized [4] tamponade, say from a clot that impairs heart [5] function regionally? [6] A: You can. [7] Q: And in general terms, in what [8] way does tamponade affect the heart function? [9] A: It prevents blood from entering [10] the heart or flowing through the right heart so [11] the left heart becomes empty. [12] Q: Does the heart rate in any way, [13] is it affected by tamponade? [14] A: It can be in some patients. And [15] they will sometimes develop a faster heart [16] rate. [17] Q: Typically in a patient that [18] develops cardiac tamponade, does their heart [19] rate increase in most patients? [20] A: I would say in most patients [21] probably, yes. [22] Although every one of our [23] patients is on a beta blocker usually, so we [24] don't really rely on heart rate to make that [25] diagnosis.
Page 70	Page 72
[1] Oz [2] intensiveness other than the anesthesiologist [3] that is in the unit on a regular basis? [4] A: Well the anesthesiologists are [5] intensiveness. [6] Q: That's what I meant. Other than [7] the anesthesiologist that you talked about, [8] there's no one else assigned to that unit on a [9] regular basis? [10] A: That's correct. [11] Q: Now, Doctor, I'm going to be [12] asking you some questions regarding cardiac [13] tamponade, and for purposes of this deposition [14] my questions are limited to cardiac tamponade [15] that occurs within the first 12 hours after [16] cardiac surgery. [17] I realize that tamponade may [18] occur under other circumstances, but that's [19] what we're going to be speaking about. [20] First off, can you tell me what [21] "cardiac tamponade" is? [22] A: Cardiac tamponade a build up of [23] pressure on the heart that prevents it from [24] adequately filling with venous blood and [25] subsequently leads to low outputs for the	[1] Oz [2] Q: And what would be the cause of [3] the cardiac tamponade during the first 12 hours [4] after cardiac surgery? [5] A: Right ventricular ischemia, [6] which would result in swelling of the right [7] heart. And if there's a small chest cavity, [8] then the heart can be pushed down by the [9] sternum bone. Bleeding is the most common [10] cause. [11] I guess those are the two most [12] obvious ones that come to mind. [13] Q: When tamponade is due to [14] bleeding, how much accumulation of blood around [15] the heart is necessary before tamponade begins [16] affecting cardiac function? [17] A: This is a question we frequently [18] ask the residents, and there is no answer to [19] that. It depends on how much space you have [20] within the pericardial sack. [21] So a patient who comes with a [22] huge heart, like a transplant patient, would [23] require hundreds of ccs of blood before they [24] will tamponade. [25] Another patient who has a

Page 73	Page 75
[1] Oz [2] swollen right heart from perioperative ischemia [3] might have almost no blood, and they're [4] physically just limited by the amount of space [5] in the heart. [6] Q: Would you agree that following [7] cardiac surgery there should be a high level of [8] vigilance for signs and symptoms of cardiac [9] tamponade when assessing the patient in the [10] postoperative ICU? [11] A: I agree. [12] Q: And would you agree that time is [13] of the essence in treating acute tamponade [14] after cardiac surgery? [15] A: I agree. [16] Q: Can cardiac tamponade be a [17] transient phenomena? [18] A: It can be. [19] Q: And how could that occur? [20] A: If, for example, the blood that [21] had clotted around the heart is displaced and [22] removed by the chest tubes. Or if you opened [23] one of the plural spaces and the blood can [24] escape into a plural space, then the tamponade [25] can resolve itself.	[1] Oz [2] diagnosing tamponade, but trends within the [3] chest tube output can be of use. [4] Q: What kind of trends? [5] A: For example, if a patient never [6] bled from the chest tube, their chest tube [7] output has been low in the OR and [8] postoperatively, it would be uncommon for them [9] to tamponade, since the chest tubes usually [10] work early on after any open heart procedure. [11] Q: Would you agree that reduced [12] chest tube drainage may in some instances be a [13] sign of cardiac tamponade? [14] A: Yes. [15] Q: And if blood clots occlude a [16] chest tube and drainage backs up into the chest [17] for a period of time, can that result in [18] cardiac tamponade in some instances? [19] A: Yes. [20] Q: If the blood clots occluding the [21] chest tube are dislodged, would that be an [22] example of transient cardiac tamponade? [23] A: It could be. [24] Q: Doctor, what would be the [25] profile or findings that would cause you to
Page 74	Page 76
[1] Oz [2] Q: Now if cardiac tamponade is [3] present for a period of time and then the [4] tamponade is relieved by medical intervention, [5] does cardiac function always immediately return [6] to pretamponade levels? [7] A: It generally does but not [8] always. [9] These patients are often having [10] multiple things done to them at the same time. [11] So they may not look perfect after you're done. [12] Q: What type of things are you [13] referring to, Doctor? [14] A: For example, these patients [15] often get a fair amount of fluid to treat them. [16] Or likely cause for their hypotension, which is [17] vasodilation of their systemic circulation. [18] So they often have a lot of [19] extra fluid within their vascular tree and that [20] can leave you with an elevated central venous [21] pressure, even after you relieve the tamponade. [22] Q: Would you agree that the amount [23] of chest tube drainage is not a primary factor [24] in diagnosing cardiac tamponade? [25] A: It's not a primary factor in	[1] Oz [2] suspect cardiac tamponade after cardiac [3] surgery? [4] A: There's some physical exam [5] criteria that are apparent. [6] The patients will often develop [7] a reddish, purplish hue of their head as the [8] head engorges with blood because of the [9] tamponade. [10] They will develop what's called [11] a pulses paradoxicus, which is a change in [12] blood pressure between when you inhale and [13] exhale. [14] And this can be apparent in [15] patients on a ventilator who when they get air [16] pushed into them by the ventilator will have [17] further compression of the heart and it will [18] reflect in that — in a reduction of blood [19] pressure for those periods. [20] There are some additional [21] studies that have been argued to be of benefit [22] in the literature, but most clinicians [23] recognize that the only real way you can [24] diagnose tamponade, if you really think that's [25] what's going on, is to open the patient's

Page 77 [1] Oz [2] chest. [3] Q: We've already talked about [4] tachycardia may be seen with cardiac tamponade. [5] What about hemodynamic [6] parameters? Any changes in hemodynamic [7] parameters that may be consistent with or may [8] add to the suggestion of cardiac tamponade? [9] A: If you have an equalization in [10] the left and right side pressures on [11] catheterization, which is difficult to do in an [12] ICU setting, that is one of the signs that we [13] look at. [14] That is more for chronic [15] tamponade not the area of questions that you [16] wanted me to pursue. [17] For this particular case we [18] would look at central venous pressure as an [19] index of whether or not we have inhibition of [20] blood flowing through the heart. [21] Q: What do you look at in [22] particular with the central venous pressure [23] that might suggest or be consistent with [24] tamponade after surgery? [25] A: A patient who has no real reason	Page 79 [1] Oz [2] no tamponade. [3] Or a patient who has heart [4] failure. [5] Q: And when you are coming to a [6] clinical diagnosis of cardiac tamponade, the [7] things that we just talked about, do they all [8] have to be present before cardiac tamponade can [9] be diagnosed? [10] A: No. [11] Q: And, Doctor, would another sign [12] that would be consistent with cardiac tamponade [13] be the gradual increasing requirements for [14] inotropes or pressor support? [15] A: This is something that is seen [16] with patients with tamponade, but in many other [17] conditions as well. [18] Q: So, Doctor, how do you actually [19] diagnose cardiac tamponade in a postoperative [20] cardiothoracic patient? [21] A: Beside the physical exam issues [22] that we have discussed, I look at the chest [23] tube output for particular patients who had a [24] large amount of chest tube output suddenly stop [25] and have no output for several hours.
Page 78 [1] OZ [2] to have right heart failure who develops a CVP [3] above 20 will be the kind of patient I would be [4] concerned about. [5] Q: How about falling cardiac [6] output, would that be consistent with [7] tamponade? [8] A: Tamponade is a real chameleon. [9] It can be involved in almost any problem the [10] patient has. [11] So although falling cardiac [12] output is clearly an area that, or finding that [13] you can associate with tamponade, there are [14] many other explanations for that which are more [15] common. [16] Q: How about hypotension? [17] A: Hypotension is a fairly late [18] manifestation of tamponade, but it can occur as [19] well. [20] Q: How about enlarged cardiac [21] contour on a chest x-ray, is that sometimes [22] seen with cardiac tamponade? [23] A: It is sometimes seen with [24] cardiac tamponade. It is more often seen with [25] a patient who has blood around their heart but	Page 80 [1] Oz [2] I look at the central venous [3] pressure to identify whether or not it's more [4] than 20 and whether in addition to that finding [5] we have a drop in our cardiac index. [6] And usually associated with that [7] a reduction of blood pressure. [8] And if I find that constellation [9] of findings, I don't do any more tests, I will [10] either try to suck the tubes out, see if I can [11] stabilize the patient with fluids and inotropic [12] support, and if I can't, then I return them to [13] the operating room for reexploration. [14] Q: Is that something that you [15] personally do on your patients? [16] A: Not always. We have very well [17] trained fellows within the institution who are [18] here every minute of every day, and they're [19] very well equipped to take back — these are [20] people who have had often a decade of training [21] in the field of surgery, and so they take the [22] patients back. [23] I'm always alerted before they [24] go back, and I'm kept aware of what's going on [25] while they're in the operating room.

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[1] Oz [2] If they need my assistance I [3] come in, and if they don't, then they will do [4] the whole operation. [5] Q: But if they go down and see a [6] patient that they think needs to go back to [7] surgery, they make a phone call to you and at [8] least let you know what's going on? [9] A: Yes, they do. [10] Q: Doctor, would you agree that the [11] information provided by an echocardiogram is [12] useful to the physician in arriving at a [13] diagnosis of cardiac tamponade? [14] A: We have ceased getting [15] echocardiograms, and I repeat, we no longer get [16] echocardiograms in the ICU to evaluate [17] tamponade because they have been misleading to [18] us so often. [19] Q: And why is that? [20] A: Because the echocardiogram [21] usually is of a limited quality in a patient [22] who is intubated in the ICU. [23] It will frequently show what [24] appears to be a little bit of clot around the [25] heart, because the clot that's causing the	[1] Oz [2] me as the policy in your unit in regard to [3] echocardiography and cardiac tamponade, when [4] did that particular policy go into effect? [5] A: The word "policy" probably isn't [6] the right term for it, but it is a cultural [7] decision on the part of the surgical staff to [8] not ask for these echoes when the issue of [9] tamponade is raised and do not give much [10] credence to observations made. Echoes happen [11] to be done when we're not aware. [12] Q: And, again, I'm asking you as to [13] when that decision or pattern of practice came [14] into effect? [15] A: It's been a trend for us for at [16] least the last five years. [17] And came into being because of [18] the increasing number of mechanical heart [19] patients we were doing. [20] So it's probably around 1996, in [21] that range, '97. That's when we were doing a [22] lot of mechanical devices for the first time. [23] Q: What you're describing for me is [24] you were getting some false negatives from the [25] echocardiogram, correct?
Page 82	Page 84
[1] Oz [2] damage is actually on the backside of the [3] heart, or at least in a view that can't be seen [4] well. [5] So we've had numerous cases, [6] sometimes catastrophic cases, where we were [7] assured that there was no tamponade and in fact [8] there was. [9] So the training at this [10] institution is for acute tamponade [11] postoperatively we do not get echoes. [12] Q: Doctor, you would agree, though, [13] there are echo correlates that would be [14] indications of cardiac tamponade, correct? [15] A: Absolutely. And I find them to [16] be more valuable late after surgery to diagnose [17] tamponades that are more slowly accumulating in [18] nature. [19] Q: And when did you — when did — [20] you're speaking of what's being done at [21] Columbia. When did you arrive at this decision [22] that you would not be doing echoes on patients? [23] A: We do echoes on patients but [24] don't do it looking for tamponade. [25] Q: Well, what you just described to	[1] Oz [2] A: Correct. [3] Q: You weren't having a problem [4] with false positives in which there were echo [5] correlates of tamponade that turned out not to [6] be tamponade, correct? [7] A: Generally speaking, correct. [8] We did have cases where we were [9] assured there was lots of blood around the [10] heart and when we got in there wasn't. [11] And that was usually because the [12] lungs were next to the heart and the [13] pericardium was thickened. A variety of [14] different reasons but — [15] Q: Were you finding that the [16] echocardiograms were showing correlates of [17] tamponade but when you got in there was no [18] tamponade? [19] A: We had some index case of that [20] but that was not the major — it was — as you [21] stated earlier, the major concern was the [22] opposite, but we did have that — we have that [23] episode as well. [24] Q: Doctor, what are the echo [25] correlates of cardiac tamponade?

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[1] **Oz**

[2] **A:** Usually you will see fluid

[3] around the heart, evidence of a compression of

[4] the right ventricle. Sometimes in late

[5] tamponade compression of the left ventricle.

[6] **Q:** Do you see some interventricular

[7] septum displacement?

[8] **A:** You can, although that's

[9] frequently seen with univentricular failures as

[10] well so it becomes a less reliable index for

[11] us.

[12] **Q:** Can there be some dilation of

[13] the inferior vena cava?

[14] **A:** Yes, if you have a highly

[15] trained echo technician, because that's who

[16] does these echoes in the middle of the night,

[17] then you look at the hepatic veins they will

[18] often comment on that.

[19] But you already know that from

[20] the CVP. So they are telling you data that you

[21] already know.

[22] **Q:** In a postoperative ICU at

[23] Columbia, how long does it take to have a

[24] transesophageal echo done if the physician

[25] feels it's needed, how long does it take to

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[1] **Oz**

[2] have it done?

[3] **A:** If we have physicians like the

[4] ICU attending in the ICU at that moment, we can

[5] get the echo within an hour. Usually.

[6] If it's later in the evening and

[7] there is no ICU attending in-house, it can take

[8] us probably closer to two hours to get an echo

[9] done.

[10] **Q:** So your ICU anesthesiologist

[11] doesn't perform echoes?

[12] **A:** He does but he doesn't have an

[13] echo machine there.

[14] So during the daytime we have to

[15] take the echoes from the OR and bring them

[16] over. At nighttime they come from the echo

[17] lab.

[18] **Q:** And if the equipment and a

[19] trained person's available, how long does it

[20] typically take to complete a transesophageal

[21] echo?

[22] **A:** Fifteen minutes, from the moment

[23] you start.

[24] **Q:** Now if a new finding of

[25] mediastinal widening is seen on a postoperative

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[1] **Oz**

[2] cardiac surgery chest film, would you agree it

[3] should heighten the concern for cardiac

[4] tamponade?

[5] **A:** It's not a matter of disagreeing

[6] with the comment, but it's such a ubiquitous

[7] finding I no longer pay any attention to it.

[8] **Q:** How about the patient is

[9] hemodynamically unstable and then there is

[10] mediastinal widening seen on a chest film,

[11] would that raise the concern for tamponade?

[12] **A:** It would.

[13] **Q:** Does hypovolemia tend to mask

[14] some of the typical hemodynamic trends seen in

[15] cardiac tamponade?

[16] **A:** Hypovolemia?

[17] **Q:** Yes.

[18] **A:** Hypovolemia will make the

[19] patient much less stable in that setting.

[20] **Q:** Would it **mask** any of the things

[21] that you as a clinician would look for to

[22] diagnose tamponade?

[23] **A:** It would influence the central

[24] venous pressure.

[25] **Q:** In what ways?

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[1] **Oz**

[2] **A:** If you're hypovolemic you're CVP

[3] will — central venous pressure, will be lower

[4] than perhaps what it would be if you were

[5] tamponading and were adequately volume loaded.

[6] Your cardiac output will be

[7] lower than what it would be if you were

[8] adequately volume loaded.

[9] **Q:** If a cardiothoracic surgery

[10] patient develops cardiac tamponade in the first

[11] 12 hours after surgery, does treatment usually

[12] involve immediate surgical intervention?

[13] **A:** Usually, yes.

[14] **Q:** And is it usually considered an

[15] emergency situation?

[16] **A:** It depends on the patient's

[17] hemodynamic status.

[18] If it's a true emergency you

[19] open their chest at the bedside. But that

[20] introduces a whole series of potential

[21] postoperative complications including

[22] infection.

[23] **MS. TOSTI:** Doctor, I want to

[24] take a couple minute break right here

[25] and we're going to talk a little bit

Page 89	Page 91
[1] Oz [2] about your report. So I would just [3] ask you to take maybe five minutes or [4] so and then we'll come back. Okay? [5] MR. JACKSON: Jeanne, how much [6] longer? Is it just the report or do [7] you have more? [8] MS. TOSTI: I have quite a bit [9] more here. [10] MR. JACKSON: What does that [11] mean? [12] MS. TOSTI: Well, I don't know [13] what the Doctor is going to be [14] answering here, but I still have quite [15] a bit more. I'm probably more than [16] halfway through right now. [17] THE WITNESS: Is the five-minute [18] break for me or for you? [19] MS. TOSTI: For me. [20] THE WITNESS: Okay. Thank you. [21] MR. JACKSON: Jeanne, before you [22] break, I have the CV laying here. Why [23] don't we have it marked as Exhibit 5 [24] and I'll attach it. I'll get you a [25] copy also.	[1] Oz [2] most common cardiac valve lesions in the United [3] States? [4] A: It is. [5] Q: And if there is no other [6] underlying medical problem, does the survival [7] rate for people who undergo replacement [8] approach the survival rate for the general [9] population after surgery? [10] A: It gets close to the general [11] population. But if patients have severe left [12] ventricular hypertrophy or thickening of the [13] muscle, which is usually associated with severe [14] aortic stenosis, then they never reach the [15] normal survival. [16] Q: Does it approach normal survival [17] rates? [18] A: It gets close to it, but [19] approach is a dangerous term because I would [20] bet that they probably die twice as frequently. [21] But the baseline death rate is sort of low. [22] So it's not that it's a high [23] death rate necessarily, but it is significantly [24] more than the average patient or average [25] individual.
Page 90	Page 92
[1] Oz [2] MS. TOSTI: That sounds good. [3] MR. JACKSON: We'll have a copy [4] attached to the transcript. [5] MS. TOSTI: Okay, I'll be back [6] in five minutes. [7] THE WITNESS: Should we leave [8] the phone open? [9] MR. JACKSON: Go ahead and leave [10] it open. [11] THE VIDEO OPERATOR: The time is [12] 4:25 p.m., we're off the record. [13] (Whereupon, Curriculum Vitae of [14] Mehmet C. Oz, M.D., updated March 29, [15] 2002, was marked as Plaintiff's [16] Exhibit 5 for identification, as of [17] this date.) [18] (Recess taken) [19] THE VIDEO OPERATOR: We are back [20] on the record, the time is 4:45 p.m. [21] BY MS. TOSTI: [22] Q: Doctor, we're going get to your [23] report in just a minute, I have a couple other [24] questions for you. [25] Is aortic stenosis one of the	[1] Oz [2] Q: Doctor, would you agree that [3] it's very important for a medical expert to be [4] unbiased when reviewing and rendering an [5] opinion in a medical legal matter? [6] A: Of course. [7] Q: Now, you have before you, I [8] believe, what has been marked as Plaintiff's [9] Exhibit 1, which I think you have identified as [10] your report in this case; is that correct? [11] A: That's correct. [12] Q: And that's a letter that you [13] wrote to Mr. Jackson dated November 19th, 1999, [14] correct? [15] A: That's correct. [16] Q: Was this the only report that [17] you provided to defense counsel? [18] A: I believe it's the only report, [19] yes. [20] Q: And tell me what the assignment [21] was that you were given relative to this case? [22] A: It was to decide whether the [23] standard of care for this patient was met. [24] Q: And does your report of [25] November 19th, 1999 summarize all the opinions

	Page 93			Page 95
[1]	OZ	[1]	Oz	
[2]	that you currently hold concerning this case?	[2]	correct?	
[3]	A: I believe so, yes.	[3]	A: That’s correct.	
[4]	Q: Do you have any corrections that	[4]	Q: Did the fact that you consider	
[5]	you want to make to your report before we get	[5]	Cleveland Clinic to be a world leader in	
[6]	started?	[6]	minimally invasive operations and that they	
[7]	A: I noticed while rereading it	[7]	have numerous publications and peer review	
[8]	today I had one or two typographic errors,	[8]	articles influence your opinions in this case	
[9]	tense was wrong and one verb, but these are not	[9]	in anyway?	
[10]	substantive, I don’t believe.	[10]	A: I don’t believe this case	
[11]	Q: Do you intend to do any	[11]	revolved around whether the minimally invasive	
[12]	additional work or review any additional	[12]	operation was appropriate or not. In fact it	
[13]	materials in this case before the time of	[13]	seemed to me the critical issue was whether his	
[14]	trial?	[14]	postoperative management was appropriate.	
[15]	A: I was not planning on it. It	[15]	So I don’t think this is a	
[16]	would probably be worthwhile to see the nurses’	[16]	critical point for my review. It happens to be	
[17]	depositions, but nothing else.	[17]	a true statement that they were well versed in	
[18]	Q: In your opinion was James Long	[18]	the management and performance of patients who	
[19]	an appropriate candidate for the type of	[19]	were getting minimally invasive operations.	
[20]	minimally invasive valve replacement surgery	[20]	Q: Did your opinion of the	
[21]	that he underwent?	[21]	Cleveland Clinic’s expertise in this area in	
[22]	A: I believe so, yes.	[22]	any way influence your opinions as to whether	
[23]	Q: Now in your report I believe at	[23]	Cleveland Clinic met the standard of care	
[24]	paragraph 3 it says, in regard to the Cleveland	[24]	postoperatively for this patient?	
[25]	Clinic that, “This Center is world leader in	[25]	A: Absolutely not. I based that on	
	Page 94			Page 96
[1]	Oz	[1]	Oz	
[2]	minimally invasive operations and has numerous	[2]	the hard data provided me, particularly in the	
[3]	publications and peer review journals outlining	[3]	intensive care flow sheet.	
[4]	their superb results.”	[4]	Q: If you were asked to act as an	
[5]	Can you tell me why you included	[5]	expert against Cleveland Clinic in a case with	
[6]	that statement in your report?	[6]	merits, would you do it?	
[7]	A: I think minimally invasive	[7]	MR. JACKSON: Objection.	
[8]	surgery is used as an advertisement by many	[8]	Go ahead, Doctor, you can	
[9]	centers, and I wanted to make it clear this was	[9]	answer.	
[10]	not a center that was hyping an operation that	[10]	A: If the case had merits and I had	
[11]	they do rarely and don’t have any real	[11]	the time to do it, I would do it.	
[12]	expertise in. In fact they had been	[12]	I have acted on the plaintiff’s	
[13]	demonstrated leaders in the arena.	[13]	side in the past when I thought it was	
[14]	Q: And did you have a source for	[14]	appropriate.	
[15]	your comment that this was the world leader in	[15]	Q: And you would agree that	
[16]	minimally invasive operations?	[16]	regardless of Cleveland Clinic’s reputation,	
[17]	A: The lack of the word “a” before	[17]	Cleveland Clinic and its employee were required	
[18]	world leader is one of the two typos I noticed.	[18]	to meet the standard of care, correct?	
[19]	The other being the word “be” in the sixth line	[19]	A: Absolutely.	
[20]	of the fourth paragraph. Should have been	[20]	Q: What is your understanding as to	
[21]	“been”.	[21]	the cause of bleeding during James Long’s first	
[22]	Q: And prior to the time that you	[22]	surgery when James Long had to be placed back	
[23]	rendered opinions in this case, you had the	[23]	on cardiopulmonary bypass?	
[24]	opinion that Cleveland Clinic was a world	[24]	A: It was noted in the operative	
[25]	leader in minimally invasive operations,	[25]	report that there was a site from the proximal	

Page 97	Page 99
[1] Oz [2] suture line of the homograph that was bleeding [3] and that it had been repaired with a suture. [4] Q: And what was the likely cause of [5] that bleeding? [6] A: When you do this operation you [7] have to match two sites that don't ideally [8] measure equal to each other. So you may have a [9] 3, 4, 5-millimeter, sometimes sonometer [10] difference in the orifice of one hole that [11] needs to be matched to the tube that you're [12] putting on it. And so as you place your [13] sutures you need to make up that difference. [14] And sometimes while making it up [15] there's a discrepancy and sometimes the tissues [16] don't come together as you like them and they [17] can have bleeding. [18] Q: Do you recall what Dr. Cosgrove [19] said he thought occurred in regard to the [20] surgery? [21] A: I never discussed with [22] Dr. Cosgrove, and in the operative note I just [23] have what the official document said. [24] Q: But you read his deposition, [25] correct?	[1] OZ [2] think about frequently. [3] Q: Is that an unusual occurrence to [4] have the tissue pull — to have a stitch pull [5] through the tissue after this type of surgery? [6] Is that something that is unusual? [7] A: Can you define unusual as a [8] percent? I'd say it probably happens in [9] 5 percent of cases. [10] In fact, there's a company [11] called CryoLife which makes a product called [12] BioGlue that is probably used for that exact [13] indication more than any other. And it is a [14] synthetic material that is placed over the [15] suture line, so if it does happen to pull [16] through, this material can fill in the gaps so [17] there's no bleeding. [18] So it's at least common enough [19] that a company has made money selling a product [20] to treat it. [21] Q: Would there be a heightened [22] concern for postoperative bleeding in a patient [23] who has experienced a stitch rupture or pull [24] through? [25] A: Well, the concern about
Page 98	Page 100
[1] Oz [2] A: I did, but I don't recall what [3] he said regarding that specific operation. [4] Q: Okay. You don't recall him [5] saying anything about a stitch rupturing or [6] pulling through during the first surgery as [7] being the likely cause of that initial bleed? [8] A: I don't recall that, but that is [9] a possible explanation as well. [10] The tissues can sometimes be a [11] bit friable, and if you pull on the suture, [12] which is a thin string, it can act like a piano [13] string and pull through tissue. [14] Q: Has that ever happened to you [15] during an aortic valve replacement surgery [16] where the suture pulled through the tissue? [17] A: Absolutely. [18] Q: How many times have you seen [19] that happen? [20] A: I had it happen once this year. [21] I don't keep track of those types of things. [22] It is a continuously occurring [23] concern, because the aortic tissue and [24] particularly with the homograph, the root of [25] aorta is friable, and so it is something we	[1] OZ [2] postoperative bleeding is not so much related [3] to whether there was a suture that pulled [4] through, but whether you had trouble fixing it. [5] So while fixing that you made [6] some place else bleed, or your impression was [7] the whole thing was falling apart, then you're [8] correct in assuming there would be some [9] heightened suspicion. [10] But if the patient's hole was [11] fixed, whatever the cause, whether pulled [12] through or the suture broke or you didn't [13] oppose the tissues ideally, and you're able to [14] deal with it in a way that results in a hourly [15] chest tube output that is low, by that I mean [16] less than 200 to 300 ccs for the first hour or [17] two, then I would not have a high degree of [18] concern. [19] Q: Would it have been prudent for [20] Dr. Cosgrove to tell the medical providers [21] giving care to James Long in the postoperative [22] ICU that this occurred and that he should be [23] watched for possible signs of additional [24] bleeding? [25] A: If it was my case, I would not

Page 101	Page 103
[1] Oz [2] have done that. [3] Because when you tell people to [4] treat your patient differently, they vary from [5] the normal treatment strategy that happens to [6] work so well that it's your normal treatment [7] strategy. [8] This is true whether you're [9] dealing with a VIP patient that you want [10] special care taking care of, because they often [11] do worse because you alter your regiment. [12] If they — if the surgeon were [13] to tell the team to manage this patient [14] separately than the norm, the next morning he [15] may still be intubated, perhaps they would have [16] purposely kept the blood pressure very low for [17] fear of causing bleeding. And that could hurt [18] his kidney, maybe, or it would require use of [19] drugs that can have other side effects. [20] So I think if the patient's [21] bleeding and you have a concern about it, you [22] should tell the team and make them aware. [23] And if you've dealt with the [24] problem in the operating room and it's no [25] longer pertinent to the postoperative care in	[1] OZ [2] of 17-millimeters in mercury.” [3] What in regard to the CVP [4] indicates to you that he had moderate right [5] heart dysfunction? [6] A: I think the average patient [7] coming out of the operating room after this [8] operation would have a CVP that's in the 12 to [9] 15 range. [10] So 17 is not a crazily high [11] number but it is higher than the average [12] patient would have. [13] And there's no problem with [14] maintaining it at 17, but if it sneaks up from [15] 17 to 25, that's a problem. [16] Q: And you note that it's “moderate [17] right heart dysfunction”. [18] What is the basis for saying [19] it's moderate as opposed to mild? [20] A: There are no firm numbers that [21] differentiate mild from moderate and, in fact, [22] you have to do a calculation of right [23] ventricular stroke work to really quantify [24] that. [25] But a CVP of 17 is high enough
Page 102	Page 104
[1] Oz [2] this patient, in your opinion, then there is no [3] sense in messing up a very effective and [4] successful system. [5] Q: Doctor, if you have a stitch [6] pull through because the tissue is friable, [7] isn't there an increased risk that that can [8] occur again? [9] A: If the cause is because the [10] tissue is friable, then it's a possibility. [11] But again, the only area of [12] friable tissue was in that one spot, then it [13] may not be. [14] If, in fact, it really wasn't [15] friable tissue but you pulled up on it hard or [16] you torqued the aorta while looking around, or [17] the blood pressure suddenly skyrocketed to [18] 200-millimeters in mercury and caused bleeding, [19] than any of those explanations would not need [20] me necessarily to have a heightened concern [21] over postoperative bleeding. [22] Q: Now, you indicate in your [23] report, I believe in paragraph 3, the last [24] sentence, “His initial hemodynamics revealed [25] moderate right heart dysfunction with the CVP	[1] Of [2] that you are within striking range of what I [3] would call severe right heart dysfunction, [4] which is, I'd say, 23-25 range of millimeters [5] mercury. So that's why I termed it moderate. [6] Q: And was this a new finding for [7] James Long? [8] A: To have a CVP of 17? [9] Q: The moderate right heart [10] dysfunction that you are referring to. [11] Is that a new finding for him? [12] A: It was a new finding. Not an [13] uncommon finding after an aortic valve [14] operation, but it was a new finding for him. [15] Q: Now, his preoperative [16] echocardiogram that was done the day before [17] indicates that he had normal right ventricle [18] size and normal function. [19] A: That's correct. [20] Q: So what occurred that caused him [21] now to have this right ventricular dysfunction? [22] A: Two thirds of stunned or injured [23] heart muscle after heart surgery is from the [24] right ventricle. Because it is the chamber [25] that is most anterior and therefore warms the

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[1] **OZ**

[2] most from the lights of the OR.

[3] And so even when you're trying

[4] to keep the heart cold, which you need to do to

[5] preserve it during the period you stop the

[6] heart, the right heart becomes warm, then can

[7] suffer injury.

[8] In addition, the right coronary

[9] artery comes off the aorta as the most anterior

[10] structure, so it's the highest structure.

[11] And when air, which is often

[12] found in the hearts of these patients is

[13] ejected through the aorta, it will go to the

[14] highest place, because air flows. So the air

[15] will almost always go to the right coronary

[16] artery and stun the right heart.

[17] So those are two of the most

[18] common explanations for why the most common

[19] postoperative dysfunction we see is right heart

[20] dysfunction.

[21] Q: So Dr. Cosgrove and

[22] Dr. Muehlebach should have been aware that

[23] James Long was exhibiting moderate right heart

[24] dysfunction when they visited the ICU at, looks

[25] like 1830 hour, correct?

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[1] **Oz**

[2] A: Well, by 1830 his central venous

[3] pressure had fallen to 13, which is in the

[4] range of normal.

[5] So either — and if I was in the

[6] ICU at that point, I would have said to myself,

[7] well, maybe he got a little bit air in his

[8] right coronary artery and it's now gone through

[9] the system, because he's back down to normal.

[10] Q: So the moderate right heart

[11] dysfunction improved one way, cleared up?

[12] A: It seems to have improved

[13] because — judging by the central venous

[14] pressure.

[15] Q: Is there anything else that

[16] indicates to you that he had this right heart

[17] dysfunction that you're describing other than

[18] what you've already stated?

[19] A: No, but that is the most common

[20] way we would make a diagnosis.

[21] Q: And if he did not have what

[22] you're terming as right heart dysfunction, you

[23] would expect the CVP to be in the range of 12

[24] to 15, correct?

[25] A: That's correct.

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[1] **OZ**

[2] Q: So the fact that he went from 17

[3] down to 13 to 15 after initially being in

[4] there, that still leads you to believe he had

[5] right moderate dysfunction? .

[6] A: I believe he had moderate right

[7] heart dysfunction immediately after surgery

[8] which got better for an hour or two, and then

[9] over the next few hours, which is — again, is

[10] not uncommon, began to exhibit evidence with

[11] elevated CVP.

[12] Q: Would that be cause for concern

[13] in a patient who has undergone aortic valve

[14] replacement surgery to see that CVP starting to

[15] climb?

[16] A: It is a cause for concern and

[17] needs to be monitored.

[18] Q: Okay. And that should be

[19] monitored by the physician caring for the

[20] patient in the ICU?

[21] A: Generally in our ICU the nurses

[22] will keep track of the numbers, like a CVP,

[23] until they reach past what their comfortable

[24] with.

[25] In this patient's case I think

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[1] **Oz**

[2] it was rational to wait until the CVP came back

[3] to what it was when he first got to the

[4] recovery room, which was 17, and at that

[5] juncture, which was from this chart look likes

[6] around 1930, the CVP increased further past 17

[7] and they started to use some medications to

[8] treat it.

[9] Q: And what do you need to treat a

[10] CVP that is going up as a result of right

[11] ventricular dysfunction?

[12] A: Well, a drug that is very

[13] typically used for that purpose is epinephrine.

[14] Q: Was there any evidence that he

[15] had right heart dysfunction before he went to

[16] surgery?

[17] A: Based on the preoperative

[18] echocardiography, no.

[19] MS. TOSTI: I'm editing some

[20] things out of here, so just give me a

[21] minute.

[22] MR. JACKSON: As long as you're

[23] doing that, take as much time as you

[24] like.

[25] Q: Now, Doctor, did the right heart

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[1] **Oz**
[2] dysfunction that you described place James Long
[3] at any increased risk for any particular type
[4] of postoperative complication?
[5] **A:** The complications of right heart
[6] failure include malprofusion to the kidneys,
[7] the head, and the liver in particular.
[8] **Q:** And aside from starting
[9] epinephrine, are there any other measures that
[10] can be taken to reduce the risk from this
[11] complication?
[12] **A:** I believe in 1996 you could use
[13] Primacor, but the ideal treatment actually is
[14] nitric oxide which was not available then.
[15] **Q:** Now, Doctor, I believe in page 2
[16] paragraph 2 of your report you indicate that
[17] you felt that James Long was prone to
[18] tamponade; is that correct?
[19] **A:** I'm sorry, the second paragraph?
[20] **Q:** Page 2 you indicate that he was
[21] prone to tamponade; is that correct?
[22] **MR. JACKSON:** Where are you
[23] reading that from?
[24] **MS. TOSTI:** Second paragraph on
[25] page 2 about a little more than

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[1] **OZ**
[2] halfway through.
[3] **MR. JACKSON:** Okay.
[4] **A:** I do see that, yes.
[5] **Q:** Okay. So in your opinion James
[6] Long was prone to tamponade; is that correct?
[7] **A:** Patients with right heart
[8] failure independent of end organ dysfunction
[9] are also at risk for tamponade, because their
[10] heart is already enlarged and they don't have
[11] as much room within the pericardial space, so
[12] less blood can cause tamponade.
[13] **Q:** And so in James Long's case it
[14] was your opinion he was prone to tamponade; is
[15] that correct?
[16] **A:** Yes, I believe so.
[17] **Q:** Did you find any indication in
[18] the records that you reviewed that Dr. Cosgrove
[19] was aware of Mr. Long's moderate right
[20] ventricular dysfunction on arrival to the ICU?
[21] **MR. JACKSON:** Say that again,
[22] please?
[23] **Q:** Did you find any indications in
[24] the records you reviewed that Dr. Cosgrove was
[25] aware of Mr. Long's moderate right ventricular

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[1] **Oz**
[2] dysfunction on arrival to the ICU?
[3] **MR. JACKSON:** Are you referring
[4] to depos, records? You said
[5] "records" Jeanne, I don't know what
[6] you're —
[7] **MS. TOSTI:** Well, I will expand
[8] that.
[9] The medical records that you
[10] reviewed as well as the depositions.
[11] **MR. JACKSON:** Okay.
[12] And just to save time, I don't
[13] remember if you asked Dr. Cosgrove
[14] that. If you're saying you did, can
[15] you point us out to it?
[16] **MS. TOSTI:** I'm asking him if in
[17] his review he found anything that
[18] indicated that Dr. Cosgrove was aware
[19] of Mr. Long's moderate right
[20] ventricular dysfunction on arrival to
[21] the ICU?
[22] **MR. JACKSON:** Okay, and I'm
[23] asking you **if** that was discussed in
[24] his deposition, can you point us to it
[25] and save some time.

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[1] **Oz**
[2] And if you're saying you're not
[3] going to do that —
[4] **MS. TOSTI:** I do not have
[5] Dr. Cosgrove's deposition in front of
[6] me and I did not take his deposition.
[7] **MR. JACKSON:** Okay. I don't
[8] believe that was asked, but go ahead,
[9] Doctor.
[10] **A:** I've read Dr. Cosgrove's
[11] deposition but I do not recall specifically **if**
[12] that was asked, and so I would have to review
[13] it.
[14] And within the chart itself
[15] there was no clear evidence that he wrote down
[16] or documented that he **was** concerned about right
[17] heart dysfunction.
[18] I must say that's not unusual,
[19] as this type of finding is fairly common and
[20] would not usually warrant a separate note to
[21] document it.
[22] **Q:** Okay. And the same question in
[23] regard to Dr. Muehlebach.
[24] Did you find any indications in
[25] the records you reviewed or in his deposition

Page 113	Page 115
[1] Oz [2] that Dr. Muehlebach was aware that Mr. Long had [3] moderate right ventricular dysfunction on [4] arrival to the ICU? [5] A: I'm just looking at the ICU [6] notes from the residents and Dr. Muehlebach to [7] see what he wrote. [8] Again, I don't recall the [9] deposition well enough to remember if he was [10] asked that or commented on it. [11] If you don't mind, give me one [12] second, I want to look at his note. [13] (Pause) [14] You know, I just don't see. If [15] you show it to me. Excuse me one second, I'm [16] just looking for the actual notes from the — [17] this was the — before this there were notes. [18] MR. JACKSON: Okay. [19] Go ahead, Jeanne, I'll try to [20] find that. If you have something else [21] to ask. [22] BY MS. TOSTI: [23] Q: Doctor, what the does the term [24] "hemodynamically unstable" mean? [25] A: It means that one of the	[1] Oz [2] was at 2310. [3] When his blood pressure started [4] to drop with a CVP of 19, despite being on [5] adequate doses, in fact, increasing doses of [6] cardiac infusions. [7] Q: So when his blood pressure at [8] 1850 hour fell to, I believe it was 75 or 46, [9] and his cardiac index dropped to 2.0, you [10] didn't consider that to be unstable [11] hemodynamically? [12] A: Well, he wasn't on much support [13] at that time, and although it would meet the [14] strict definition of blood pressure that is [15] going down and up, the only time I would — [16] when you turn a patient over, or a patient [17] suddenly sits up, they often drop their blood [18] pressure to this degree as well soon after [19] surgery. [20] But I don't really equate that [21] with a life threatening process unless it's not [22] easily returnable back to normal. [23] Q: Okay. Well, how about between [24] 1950 hour and 2130 hour when he had the two [25] vasopressors running and the nursing personnel
Page 114	Page 116
[1] Oz [2] pressures in the patient, either within the [3] heart or within the system, is not stable. [4] Q: Does that have to be over a [5] particular period of time? [6] A: No, it could happen suddenly or [7] it could be over a period of time. [8] Q: Okay. And how would you [9] determine that a patient was hemodynamically [10] unstable? What is it that you look at? [11] A: The typical things I would focus [12] on are labile blood pressure. [13] Q: Meaning it goes up and goes [14] down? [15] A: Exactly. [16] Q: Okay. [17] A: And often associated with that, [18] labile cardiac output or index. [19] MR. JACKSON: Is this the [20] assessment? [21] Q: And in your opinion was James [22] Long hemodynamically unstable at any time while [23] he was in the postop ICU? [24] A: The only time that he became [25] unstable, I would consider him being unstable,	[1] Oz [2] weren't able to get his blood pressure up to 90 [3] systolic as had been ordered, would he have [4] been hemodynamically unstable, in your opinion, [5] during that period of time? [6] A: Well, again, you know, he is on [7] a very low dose of epi and not a high dose of [8] Levophed either, so once he got up to a dose [9] here in drips of 10.66, and which is when his [10] blood pressure came up, anything after that [11] that he drops his blood pressure on a [12] reasonable dose of I think appropriate [13] inotropic support would concern me. [14] Q: What is your understanding as to [15] what he was receiving as far as the Levophed [16] during the period of time when his blood [17] pressure was below 90 systolic beginning at [18] 1950 hour, what — how much Levophed is it your [19] understanding he was receiving? [20] A: Well, I believe the small [21] numbers may be mic dosage, but we don't use [22] microgram dosing at this institution. With [23] Levophed we go by the drops of the fluid. [24] Unlike, for example, a drug like Primacor, we [25] go on a microgram dosage.

Page 117 Oz [1] So for us the dose that he was [2] finally at of 10.66 drops per minute, and it [3] looks like it's 4 milligrams and 250 ccs, would [4] for us be a significant dose. [5] That would be the highest dose [6] we would go to roughly comfortably, practice [7] seeking an alternative drug to use, which they [8] had already started, or searching for other [9] explanations. [10] Q: Now you're aware of the nurses' [11] testimony as well as the documentation under [12] the significant events that the Levophed was [13] turned up to 40 drops per minute, correct? [14] A: Where does it say that in the [15] significant events? [16] Q: In the — if you're looking at [17] the flow sheet, in the center section of the [18] flow sheet where it has significant events [19] columns? [20] A: Yes, I do see that. [21] Q: Okay, it was turned up to 40 [22] drops? [23] A: Yes, and Dr. Muehlebach was made [24] aware. Page 118	Page 119 Oz [1] vasodilating after surgery who are experiencing [2] the complex milieu mix of cytidines and other [3] inflammatory mediators that tend to peak at six [4] hours, six to 12 hours after surgery, will [5] experience these kind of events. [6] I can personally recall dozens [7] of patients, not just one or two, dozens of [8] patients who required high dose vasoconstrictor [9] support who had no explanation ever found and [10] by the next morning were off their drugs and [11] doing fine. [12] MR. JACKSON: Jeanne, the [13] videographer needs to change his tape, [14] so I'd on a second. [15] THE VIDEO OPERATOR: Time the [16] 5:11 p.m., we are off the record. [17] (Recess taken) [18] THE VIDEO OPERATOR: The time is [19] 5:15 p.m., we are back on the record. [20] BY MS. TOSTI: [21] Q: Doctor, my question to you, [22] though, was during the time when he was on [23] increasing doses of the Levophed and his blood [24] pressure was below 90 systolic, do you believe Page 120
Page 118 Oz [1] Q: And also in the nurse's [2] depositions I think they made reference to that [3] fact. [4] And do you consider that a high [5] dose or a small dose? I think before you — [6] A: No, it's a high dose of [7] Levophed. [8] And if I had an easy solution to [9] why he was requiring it, we would start [10] addressing it. [11] Q: Well then back to my original [12] question was: Do you think that he was [13] hemodynamically unstable during the time when [14] his blood pressure was below 90 systolic and he [15] was receiving that increasing dose of Levophed [16] the nurses had testified they were turning it [17] up at several intervals? [18] A: It is appropriate to be [19] concerned that the Levophed dose increased over [20] an hour and a half period the way it did. [21] If there was an easily [22] identified solution or explanation for this, [23] then that certainly should be sought. [24] Frequently patients who are	Page 120 Oz [1] that he was hemodynamically unstable? [2] A: If one — from a strict [3] definition of the term, I believe you would say [4] he was hemodynamically unstable, but not with [5] the connotation that we have an unstable [6] patient with impending disaster. And that's an [7] important differentiation. [8] When I use the term "hemodynamic [9] instability," as when many physicians use that [10] term, there is that connotation. [11] And that is why many physicians [12] would not have called this a hemodynamically [13] unstable setting, despite the fact there was a [14] low blood pressure with increasing inotropic [15] support. [16] Q: At 2330 hour, which I believe is [17] the last entry on the flow sheet, would you [18] agree that that mean arterial pressure of 45 [19] would indicate hemodynamic instability? [20] A: I would agree, yes. [21] It would — there is no cardiac [22] index at that time. The cardiac index, which I [23] know you know, from the period of hypotension [24] you alluded to earlier was always at two or

Page 121 Oz [1] above. So the patient was being adequately [2] profused throughout that time. [3] When the mean pressure dropped [4] to 45, I suspect the cardiac index probably [5] dropped as well, and at that time the patient's [6] clearly hemodynamically unstable. [7] Q: When James Long was admitted to [8] ICU, what was the reason he was placed on [9] nitroprusside? [10] A: Nitroprusside is frequently [11] needed, as we discussed briefly earlier, in [12] patients with aortic stenosis because they have [13] a disharmony between the pressures sensed by [14] the aortic system and the pressures delivered [15] by the left ventricle after aortic stenosis [16] surgery. [17] Q: And so in this case would one of [18] the effects of that particular drug be to bring [19] down his pressure? [20] A: It would have two roles; it [21] would bring down the systemic blood pressure, [22] and also bring down the pulmonary pressures [23] which could help reduce the CVP. [24] Q: Now I believe in paragraph 4 of [25]	Page 123 OZ [1] and if you look at their flow sheets, they are [2] on both of them on and off the entire first [3] night. [4] Q: Now also in paragraph 4 you [5] indicate, I think it's about in the third line, [6] "During this period the CVP did not change, [7] although cardiac output had diminished to a [8] still acceptable index of 2.0." [9] Why did the cardiac index — I'm [10] sorry. What is the significance of that to you [11] that the CVP did not change? [12] A: I don't think there was evidence [13] at that time of tamponade or worsening right [14] heart failure. [15] Now if the cardiac index had [16] dropped, then one could argue that you're being [17] misled that the CVP would have gone up if the [18] index had remained stable. [19] But in this setting we have a [20] stable output and we have a stable CVP, so from [21] my perspective we have a stable patient. [22] Q: Why did the cardiac index go [23] down to 2.0, though, at — first at 1850 hour? [24] A: Well the patient, it is noted, [25]
Page 122 Or [1] your report on page 1 you indicate that 1910 [2] hour Levophed was started slowly increasing [3] dosage until 2130. And you said this was a [4] very common occurrence after cardiopulmonary [5] bypass. [6] Is it a very common occurrence [7] in patients with left ventricular hypertrophy [8] who undergo aortic valve replacements? [9] A: Absolutely. This is true of all [10] patients who undergo bypass. [11] Patients with aortic stenosis [12] have more instability than normal because of [13] the issue I mentioned before about blood [14] pressure regulation. [15] So for them in particular they [16] are often, and when they vasodilate, unable to [17] compensate, so we see this. [18] Q: Do most aortic valve replacement [19] patients require Levophed in the immediate [20] postoperative period? [21] A: In my institution most are on [22] low dose of Levophed in the early postoperative [23] period and we dance between Levophed and [24] nitroglycerin, which is our usual vasodilator, [25]	Page 124 Oz [1] had begun to wake up. I don't have that exact [2] time. But that could be one factor why it [3] would have been higher. In fact, it could also [4] explain why it would go down if the pressure [5] had gone up. [6] In addition, the muscle, which [7] is preserved in a cold fashion during surgery, [8] swells postoperatively. [9] And, in fact, as a historical [10] vignette, cardioplegia, which is the solution [11] we use to preserve our hearts in all heart [12] surgery, was developed specifically for aortic [13] valve surgery, because the early surgeons had [14] such a high mortality from heart muscle that [15] was thick and couldn't be preserved. [16] So these patients typically get [17] very stiff hearts over the first six to 12 [18] hours after surgery, and because of that [19] rigidity they don't let blood come into them [20] and they are unable to maintain the usual [21] outputs you would think they would have after [22] the operation. [23] Q: So he started off with an index [24] of 3.3 and then went down to 2.0. [25]

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[1] Oz [2] Is that the typical course for [3] an aortic valve replacement patient? [4] A: It think it is typical that it [5] drops. A drop from 3.3 to 2.0 is more than [6] usual, but the drop itself is not uncommon. [7] Q: And 2.0 in this patient you [8] would consider to be an acceptable? [9] A: Yes. [10] Q: Why did James Long have [11] escalating chest tube drainage of 50 ccs, a [12] hundred, then 250 ccs drainage? [13] A: A couple of possible reasons. [14] Once you get a little bit of blood in the [15] pericardial space it creates fibrinolysis, [16] which is a breakdown of clot. [17] So, in fact, once you have some [18] blood, it will stimulate other blood to leak [19] out. [20] In addition, in a patient who [21] has a CVP that's in the 15 range, they will [22] have some ooze of water more than blood into [23] the pericardial space, so one of the questions [24] is how bloody was the chest tube output, was it [25] blood from the heart coming out or was it just	[1] Oz [2] And when that happens it is very common, and [3] any ICU expert will have — will remember a [4] case from that day, much less that week, where [5] the patient was turned and dumped sometimes 4 [6] or 500 ccs of fluid. [7] So we don't get worried about [8] that degree of drainage at three hours [9] postoperatively. [10] Q: Is it concerning the fact that [11] it's escalating from 50 to 100 to 250 ccs in [12] the first two hours that he's in the ICU? [13] A: I wouldn't be concerned by that. [14] You see that frequently. [15] The usual index for us, this [16] institution, is to drain more than 200 ccs for [17] five hours in a row. That — that's the index [18] we use to define when we think someone is [19] having a bleeding issue. [20] And so there he's not there. In [21] fact, he doesn't meet that criteria at any point [22] 'til the very end. [23] Q: Now, I believe on page 1 in that [24] fourth paragraph you state that, "The total [25] chest tube output which had been very
Page 126	Page 128
[1] Oz [2] drainage from edema and other changes that [3] occur after surgery. [4] The increase to 250, which [5] occurred over the next hour, is more concerning [6] not so much because of the absolute number, [7] because 250 ccs is a very respectable output [8] for the third hour after surgery. But it is [9] less common that you'll have so little output [10] early on and then have a 250 cc drainage. [11] But we also see this very [12] commonly, and the most likely reason is that [13] the tubes opened up and allowed fluid that had [14] been accumulating for an hour or two to drain [15] out. [16] Q: Okay. If that's occurring and [17] the fluid is backing up in the tubes, you could [18] have a tamponade situation, correct? [19] A: You could. [20] But frequently these patients [21] will be moved for the first time at that third [22] hour period, or they'll start to wake up, and [23] when they do they will actually push fluid that [24] was collecting passively, not under pressure [25] but passively, out of reach of the chest tube.	[1] Oz [2] reasonable, 500 ccs until this time, suddenly [3] increased to 250 over the next hour and [4] prompted a decision to return to the operating [5] room for reexploration." [6] He had 250 ccs drainage recorded [7] at 2210 hour, correct? [8] A: He did. [9] Q: When was the decision made to [10] return him to surgery? [11] A: Well, the patient was [12] transferred at 2330. [13] (Interruption) [14] THE WITNESS: Can I hold for one [15] second? [16] MR. JACKSON: Take a break, [17] Jeanne. [18] THE WITNESS: One minute call. [19] THE VIDEO OPERATOR: The time is [20] 5:25 p.m., we're off the record. [21] (Recess taken) [22] THE VIDEO OPERATOR: We're back [23] on the record, the time is 5:26 p.m. [24] BY MS. TOSTI: [25] Q: Back to my previous question.

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[1] Oz [2] Based on your review of the [3] records, when was the decision made to return [4] James Long to surgery for reoperation? [5] A: It looks like 2330 was the [6] actual transfer time, and the decision seems to [7] have been made around that moment as well. [8] Q: And the bleeding that occurred [9] that you referred to in paragraph 4 of your [10] report was at — recorded at 2210 hour, [11] correct? [12] A: Yes, it was. [13] Q: And you believe that was what [14] prompted the decision to take him back to [15] surgery was that 250 cc of chest tube drainage? [16] A: I think the 250 cc of drainage [17] heightened the awareness of the team that there [18] might actually be ongoing bleeding. [19] And then when he dropped his [20] blood pressure to below 90 at the 2310, despite [21] being on an increasing dose of Levophed, [22] because by then he was up to 13 drops, that, I [23] think, prompted the team to commit to transfer [24] the patient to the OR. [25] And, in fact, that's noted, I	[1] Oz [2] don't know if that's an error in your report or [3] not. [4] I know there's a clinical note [5] that indicates that there was a mean arterial [6] pressure of 40, and I'm wondering where you [7] found a blood pressure of 40? [8] A: I believe it was from the actual [9] anesthesia flow sheet. I'm just looking for [10] it. [11] (Pause) [12] THE WITNESS: So is this the [13] return to the operating room? This is [14] the first operation; isn't it? [15] MR. JACKSON: Yes. [16] THE WITNESS: One second while I [17] find the actual information here. [18] (Pause) [19] I'm sorry, there's three [20] anesthesia sheets here, I'm trying to [21] find which one is the actual,... [22] Q: I have one that I'm looking [23] at — [24] A: Mean arterial pressure of 40, [25] that's correct.
Page 130	Page 132
[1] Oz [2] believe it's at 2330 when they say the chest [3] tube output is increased to 350 ccs. [4] Q: Now, James Long had a recorded [5] mean arterial pressure of 45 before he left the [6] ICU. [7] Would you agree that his cardiac [8] function was already severely compromised [9] before he ever arrived in the OR for [10] reexploration? [11] A: Perhaps not cardiac function, [12] just to be precise, but the profusion of blood [13] to his body was inadequate at that point. [14] He could have a normal heart [15] function, but because there's no blood coming [16] into the heart, he might not be able to pump [17] the blood to the body. [18] Q: Your report also in that [19] paragraph 4 on page 1 says that, "Soon after [20] arrival, I believe it's the surgical suite at [21] 2345, the anesthesia team reported a sudden [22] drop in the blood pressure to 40 millimeters of [23] mercury." [24] I want to ask you, Doctor, in [25] regard to where you got that information? I	[1] Oz [2] Q: I'm asking if there was any [3] other place that you found that his blood [4] pressure went down to 40 systolic? [5] A: No, but when you have a mean [6] arterial pressure down below 40, or in that [7] range, the value of systolic versus diastolic [8] becomes unimportant because there's not much a [9] pulse pressure. [10] For example, someone who has a [11] blood pressure of 40, a mean arterial pressure [12] of 40, will have a blood pressure maybe of [13] 45/35. [14] There's not — you don't get a [15] wide pulse pressure because there is no room [16] for the pressure to be wide. [17] Q: In regard to what you recorded [18] in your record here, though, are you correcting [19] that to be a mean arterial pressure of 40? [20] A: If it's okay, yes, I would like [21] to correct that to mean arterial pressure of [22] 40. [23] (Indicating) [24] Q: Now, it's your opinion that [25] James Long suffered neurologic complications as

Page 133 Oz [1] [2] a result of hypotension that occurred at 2345 [3] hours; is that correct? [4] A: It is. [5] Q: Now, according to your report [6] you believe that the hypotension occurred at [7] 2345 as a result of sudden hemorrhage from the [8] aortic anastomosis, correct? [9] A: That's correct. [10] Q: And that this process started at [11] 2130 hour, correct? [12] A: I actually don't know. By 2130 [13] it has 50 ccs, 2210 is where he starts — when [14] he puts out 250 ccs. [15] Q: I'm referring to paragraph 2 of [16] your report, page 2, and I believe you [17] indicated in your report that hypotension was [18] at 2345 resulting from a sudden hemorrhage in [19] aortic anastomosis and this process started at [20] 2130. [21] A: I wrote that because the last [22] noted chest tube output was at 2130. So the [23] next number reports for the following hour, so [24] we don't know whatever moment it started, but [25] we know it started after 2130 and manifested	Page 135 Oz [1] [2] Q: On line M? [3] A: Yes. [4] Q: Is at 2130, correct. [5] A: Normally our institution we [6] chart hourly, so the next charting I would have [7] done after 2130 was 2230. But you're correct, [8] it looks like they charted at 2210. [9] So the bleeding started, again, [10] sometime after 2130, because we know at that [11] point there was only 50 ccs of blood and [12] started before 2210 not 2230. [13] Q: Okay. And the sentence portion [14] of your report that says, "But could not be [15] reliably diagnosed until 2230," are you making [16] a change in that to 2210 then? [17] A: Yes. [18] Q: So that's another correction in [19] your report, correct? [20] A: As mild as it seems, it should [21] be corrected, yes. [22] Q: Now what you're saying occurred [23] at 2210 that would have allowed diagnosis is [24] the output of 250 ccs of drainage. [25] Anything else that would have
Page 134 Oz [1] [2] itself by 2230. [3] So my point here was that that [4] process which started at 2130 could not be [5] reliably diagnosed until 2230 because that is [6] the next time that the nurses would have [7] charted his chest tube output. [8] The bleeding had to have [9] occurred before 2230 because it was logged at [10] 2230. [11] Q: So it's your opinion that it [12] occurred sometime between 2130 and 2230? [13] A: It is. [14] Q: But the bleeding actually [15] occurred at 2210, that's at line O. So I'm not [16] understanding where the 2230 is coming from. [17] And that 20 — at line O is the [18] record of what the nurses measured for the [19] previous hour, [20] A: Well, their flow sheets are [21] different than ours. But I will — when I look [22] at this I see a number written at 2210, you're [23] correct. The previous number I think is [24] written at 2130; isn't it? The 50 ccs is [25] written for 2130?	Page 136 Oz [1] [2] allowed for diagnosis at that point? [3] A: Well, at that point the patient [4] was actually looking better in some ways. The [5] cardiac index was up to 2.9, the CVP had [6] remained at 19 from the previous — the 2130 — [7] 2150 reading. [8] So in many ways the patient [9] looked like he was turning around and in the [10] right direction. [11] Q: But from what you've written in [12] your report here is you said that he had a [13] sudden hemorrhage from the aortic anastomosis, [14] and the process began sometime between 2130 and [15] 2210, which you corrected, and it could not be [16] reliably diagnosed until 2210. [17] A: That's correct. [18] Q: So it should have been reliably [19] diagnosed at 2210 that he was having hemorrhage [20] from his aortic anastomosis, correct? [21] A: No, not correct. [22] Q: Well, I believe that's what [23] you've written in your report here, Doctor. [24] A: No, I didn't say that. You [25] actually made up the second part of that

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[1] Oz [2] sentence. What I said is very clear. [3] This process started at 2130 but [4] could not be reliably diagnosed until 2210. [5] That's the earliest anyone could have possibly [6] thought to make this diagnosis. [7] It doesn't mean you should have [8] made the diagnosis then, in fact, I would make, [9] and I think a very convincing argument that [10] most heart surgeons experienced in this field [11] would agree with, if they had expertise in this [12] area, that a patient who puts out 250 ccs from [13] a chest tube but has a higher than before [14] cardiac index on a stable inotropic regiment [15] with otherwise no evidence of a sudden ailment [16] is probably not acutely bleeding. [17] It is my opinion in retrospect, [18] and it's always much easier in hindsight, he [19] probably started to bleed at that time. [20] And I make that based on [21] knowledge the surgical team probably had at [22] 2345, too, but no practitioner in this field [23] would have been aware of. [24] Q: Well, but to the words that [25] you've chosen to put into your report says that	[1] Oz [2] what happened to James Long that this 2150 ccs [3] that the nurses recorded at line O at 2210 was [4] the result of bleeding from his distal [5] anastomosis? [6] A: I believe what caused that [7] bleeding over that 40-minute period was from [8] the distal anastomosis, which subsequently [9] became clear when once they had reexplored the [10] patient. [11] Q: Is it likely that the 250 ccs of [12] chest tube drainage that the nurses recorded at [13] line E, which is 1930 hour, also was bleeding [14] from that distal anastomosis? [15] A: I don't believe so, because most [16] arterial bleeders from a major structure like [17] the aorta, once they start, they don't stop [18] again. [19] So it would be extremely [20] unlikely, especially for that size of a [21] bleeder, that could generate 250 ccs in 40 [22] minutes to generate 250 ccs suddenly stop and [23] over the next two hours only yield 100 ccs more [24] of blood. [25] Q: But, Doctor, if he was
Page 138	Page 140
[1] Oz [2] it could be reliably diagnosed — it could not [3] be reliably diagnosed until 2210. [4] And so how could it be reliably [5] diagnosed at 2210? [6] A: Well, there is no way they could [7] have possibly diagnosed it until 2210. That is [8] the earliest possible time that anyone would [9] have ever had an inkling that this patient was [10] bleeding and needed to go back to the operating [11] room. [12] Q: And I understand that, but I'm [13] asking at 2210, how could it reliably be [14] diagnosed that he was bleeding from his aortic [15] anastomosis? [16] A: I don't think you could know [17] it's an aortic anastomosis, I think you could [18] know that the process of bleeding started and [19] was diagnosed — diagnosable at 2210. [20] Whether it is aortic anastomosis [21] distally or proximally or cardioplegia site or [22] sternal wound vein, that I don't think you [23] could determine until you went inside the [24] chest. [25] Q: Doctor, is it likely based on	[1] Oz [2] tamponading at that time you wouldn't expect to [3] see drainage or much drainage come out of those [4] tubes, correct? [5] A: If he was tamponading and the [6] tubes were clogged, he would not. [7] But I would have expected a more [8] significant elevation in the CVP at that time. [9] Q: Well, we do see an elevation up [10] to 20, correct? [11] A: Correct, but then with no clear [12] explanation that number drops back down to 17 [13] at line N, which is when he again put out only [14] 50 ccs. [15] So a diligent individual caring [16] for this patient would say patient's only put [17] out 50 ccs over the last hour but my CVP drop [18] 3-millimeters of mercury. That doesn't fit the [19] diagnosis of tamponade. [20] Q: Was he having tamponade [21] physiology causing his hypotension following [22] 250 ccs drainage at 1930 hour? [23] A: Well, again, the CVP — the [24] patient bled 250 ccs, or I should say the [25] patient's chest tube put out 250 ccs and yet

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[1] Oz [2] the CVP didn't change really. You know, it [3] went down 1-millimeter of mercury then up 2 [4] over the — over that next hour. [5] So it's not a clear tamponade [6] progression or regression. [7] Q: Do you have an opinion one way [8] or the other whether he was having tamponade [9] physiology during that hypotensive episode [10] following the 250 cc drainage at the 1930 hour? [11] A: Are you asking me in retrospect? [12] Q: I'm asking as an expert in this [13] case whether you have an opinion one way or the [14] other whether he was exhibiting tamponade [15] physiology during that time period? [16] A: Well, I think this patient had [17] an element of right heart failure and [18] relatively small amount of blood collecting [19] around the heart could have pushed that patient [20] in either direction. [21] Whether or not that's what was [22] happening here or the fact that they lost 250 [23] ccs of blood caused hypotension which required [24] fluid resuscitation, or whether this was just [25] evolution of that stiff ventricle that we	[1] OZ [2] pressure had done at, for example, 2130, and [3] they would have told me well it's dropped down [4] to 17 from 20. [5] I would have asked them have you' [6] increased the dose dramatically, they would [7] have said we went up to a drop or two over the [8] last hour of our Levophed and didn't change the [9] epinephrine. [10] I would have asked what the [11] blood pressure was, they would have told me it [12] was 86/54 and coming up. [13] And I would have said what's the [14] chest tube output this hour, and they would [15] have said 50 ccs, and I would said I don't [16] believe it. [17] But what they probably would [18] have told me, if they got an echo — [19] Q: I'm sorry, I didn't hear what [20] you said. [21] A: What the echo probably would [22] have shown is poor windows, difficult to [23] visualize, some blood around the heart, maybe [24] tamponade. [25] That's what the traditional echo	[1]
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[1] Oz [2] talked about earlier is pure conjuncture on my [3] part. [4] So I don't know what was [5] happening, and I don't think anyone can [6] reliably say they know for sure what was [7] happening at 20 hours that night. [8] I think it gets a little bit [9] clear when we progress down to 2210 and the [10] events that occurred over the subsequent hour [11] and a half. [12] Q: Now, given James Long's [13] prolonged hypotension where they were [14] increasing the doses of Levophed and the [15] epinephrine and his 400 ccs of chest tube [16] drainage in the first two hours of being in the [17] ICU, if he had an echocardiogram done prior to [18] 2110 and it showed evidence of fluid [19] accumulating around the heart or correlates of [20] tamponade physiology, would that be an adequate [21] basis to return him to surgery for [22] reexploration? [23] A: If they called me and said this [24] patient is tamponading based on an echo, I [25] would have asked them what the central venous	[1] Oz [2] report will read. Because it's a hedged report [3] that in every way possible is telling you they [4] have difficulty seeing, and maybe it's bad, [5] maybe it's good. [6] Q: Doctor, doesn't an echo also [7] provide you with some information regarding the [8] cardiac function that may be helpful in dealing [9] with a patient that has labile blood pressure [10] such as James Long had? [11] A: Yes, but there are other ways of [12] making that diagnosis without getting an echo. [13] For example, if you think the [14] patient threw a clot to one of their coronary [15] arteries, which happens, or if you think that [16] they're experiencing ischemia from air emboli [17] or other causes, the EKG should shift and you [18] would expect to be able to tell that with a [19] progressive declining cardiac index, no matter [20] what you do. And in this patient we didn't see [21] any of that evidence. [22] It's not that an echo can't [23] provide more information, but the real question [24] that, you know, I want to ask any heart surgeon [25] who reviews this case is would it have changed	

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[1] Oz [2] what you did, and I don't think an experienced [3] practitioner in this field would have changed [4] their actions based on an echo result. [5] Q: Why was Mr. Long placed on [6] Amicar? [7] A: When patients, as I mentioned [8] earlier, bleed into the pericardial space, that [9] blood stimulates fibrinolysis, which is a break [10] down of an already existing clot, and that's [11] one of the reasons that someone who has a [12] suture line which was dry initially would later [13] suddenly start to bleed. [14] So we place patients in many [15] institutions on Amicar because it is an [16] inhibitor of that fibrinolytic process. [17] Q: And was that in response to his [18] first 50 cc and 100 cc chest tube output after [19] going into the ICU? [20] A: No, because those numbers are [21] quite small. [22] I suspect it was added after the [23] 250 cc loss of fluid from the chest tube at [24] line G, and, in fact, it looks from my chart [25] like they started the Amicar at around 2030,	[1] Oz [2] start your drip an hour or two later. [3] It's not really critical because [4] the Amicar half life is probably in the [5] six-hour range. So that's why many of us just [6] give a one time bolus in the OR and don't [7] bother dripping it. You give it a one-time [8] shot and that's all they need for the entire [9] case. [10] Q: Do you know whether he got a [11] bolus in the OR? [12] A: I'd have to go back and check. [13] I suspect they would mention it. [14] It is the standard of care at [15] most cardiac centers today to give either [16] Amicar or aprotinin before every case. [17] Every patient should be on some [18] type of an antifibrinolytic agent. Amicar is [19] relatively inexpensive, so it is the first line [20] drug for most patients. [21] I don't know if the Cleveland [22] Clinic was doing that by protocol back then, I [23] would suspect they were, but I don't know. [24] Q: Why did James Long develop [25] bleeding from the distal suture line?
Page 146	Page 148
[1] Oz [2] which is about an hour later than that. [3] Q: Well, actually, on the flow [4] sheet it shows that the bolus was given earlier [5] in the evening at, looks like line D, which is [6] 1830 hour. [7] A: Yes, you're absolutely right. [8] They gave 10 grams of bolus. I don't usually [9] do that. [10] At this institution we don't [11] re-bolus Amicar. There are some hospitals which [12] continue Amicar as part of their protocol into [13] the ICU. I don't know if the Cleveland Clinic [14] does that. That's a protocol we have to check [15] separately. [16] And if they are one of those [17] institutions their usual protocol would be [18] 10 grams in the OR, and then 10 grams again [19] when they get to the ICU. [20] So this may have been part of [21] that protocol, but I don't know. [22] Q: At what point would a drip be [23] hung? [24] A: Well, usually when you give the [25] bolus that's effective for about an hour. You	[1] Oz [2] A: A couple possibilities. One was [3] that because of blood that had accumulated in [4] his chest he was experiencing fibrinolysis, and [5] all these suture lines, if you remove the clot [6] that seals the small holes or the interstices [7] between the sutures will start to bleed. [8] An alternative hypothesis is [9] that he tore the distal suture line as he had [10] torn the proximal one during the operation, in [11] the first operation and — but those are the — [12] probably the two most common causes. [13] Q: Is it likely he was bleeding [14] from that suture line from the time he left [15] surgery the first time? [16] A: As I said, I think that's [17] difficult to imagine because these arterial [18] bleeders, once they start they don't usually [19] stop and they bleed the magnitude that this [20] patient reveals after 2210. They all bleed [21] 250, 350, 500, in that range. They won't bleed [22] 100 to 200 an hour for arterial bleeders [23] usually. It's a much more significant amount [24] of drainage. [25] And this patient's course, both

Page 149 [1] OZ [2] the hypotension but also the amount of blood [3] that they had put out, dramatically increases, [4] and after this 2210 period it would appear from [5] the notes, so I think this was a separate [6] event. [7] Q: Isn't it highly unusual to have [8] bleeding from two separate suture lines? [9] A: Not necessarily, because the [10] patient's tissue is the patient's tissue and [11] that's the most important variable in this kind [12] of bleeding. [13] If patients have difficult to [14] sew through tissue, for whatever reason it is [15] fragile, it will be fragile on both sides of [16] the suture line. [17] Q: Do you have an opinion in this [18] case whether he had fragile tissue that caused [19] this bleeding to occur? [20] A: I have no opinion on that. [21] Q: Did you give any consideration [22] in your review as to suturing technique in the [23] surgery? [24] A: I did not because I don't think [25] that was really the crux of the issue here.	Page 151 [1] Oz [2] Q: When you have a mean arterial [3] pressure of 45 in the ICU, shouldn't a prudent [4] cardiac surgeon realize the patient is [5] decompensating? [6] A: It's not a matter whether he's [7] decompensating, he's decompensating which is [8] why he is going to the operating room, but at [9] the very out of this discussion we broached the [10] topic of judgment on how you address this [11] process. [12] If you — if this patient gets [13] his chest opened in an unsterile environment at [14] the bedside in the ICU and then subsequently [15] develops — as you know, the homograph is [16] directly exposed to the outside environment, it [17] is the most anterior structure of the heart. [18] So when you open the chest and [19] the dust from the curtain settles in the wound [20] and you're unsterile attempts to get the chest [21] open without, by the way adequate lighting to [22] see what is going on any way, is accomplished [23] and you manage by some miracle to get your [24] unsterile fingers on the hole in the aorta, you [25] have now condemned him to a separate set of
Page 150 [1] Oz [2] Whatever technique was used by [3] the surgeon, he's obviously used it in cases [4] before, and been able to get patients through [5] this operation. [6] There are as many different ways [7] of doing these operations as there are surgeons [8] doing them. So it becomes difficult for me to [9] argue that my way is better than his. And [10] maybe it's the same. So I can't make that [11] statement. [12] Q: Okay. I believe your report [13] indicates that there was a sudden [14] decompensation 15 minutes after transfer of the [15] patient to the OR, correct? [16] On the top of page 2 in the [17] second paragraph. [18] A: This is at 22 — 2345? [19] Q: That's the middle of the [20] paragraph. The sudden decompensation occurring [21] 15 minutes after transfer. [22] A: That's correct. [23] Q: And that would not be [24] anticipated by you nor most cardiac surgeons? [25] A: That's correct.	Page 152 [1] OZ [2] problems which can be equally fatal as the one [3] he eventually underwent. [4] So most hospitals would [5] prefer — most surgeons would prefer to get the [6] patient to a more controlled environment, which [7] is the OR, where they have light on their side, [8] they have suction on their side, they have [9] trained nurses on their side. [10] There are some times when [11] opening the chest in the ICU is appropriate. [12] But that is not usually when you have a blood [13] pressure of any kind. That usually is prudent [14] when you have no blood pressure and you clearly [15] have no time to go anywhere. [16] Q: Well, I don't think that you [17] answered the question that I asked. [18] Your report indicates that this [19] was a sudden decompensation that occurred 15 [20] minutes after transfer and would not have been [21] anticipated. [22] Now wouldn't you agree that if [23] somebody has a 45 mean arterial pressure in the [24] ICU that it would be anticipated that the [25] patient is decompensating and that when you get

Page 153	Page 155
[1] OZ [2] them up to the OR that you should be expecting [3] that there may be continued decompensation? [4] A: It's not an issue whether you [5] expect decompensation, I think I did answer [6] this, it's a question of how sudden will it be. [7] If you think you can keep a [8] pressure of 45 for the 20 minutes, let's say, [9] that it takes you to get into the operating [10] room, on a table and prepped, which I think [11] most practitioners would feel they could [12] accomplish, then it's the more prudent way to [13] go. [14] And my comment in this [15] statement, in the point of this statement, was [16] that the 15-minute period during which the [17] decompensation from 45 to — depending on how [18] the data is interpreted, no palpable blood [19] pressure, or difficult to assess blood pressure [20] from the time it occurs, is more rapid than [21] most practitioners would have anticipated. [22] Q: Now, Doctor, you make a [23] reference on page 2 in paragraph 2 as to the [24] fact that the patient was taken to surgery [25] within an hour.	[1] OZ [2] Q: In the hospital chart, the OR [3] report. [4] A: I was just looking at it a [5] second ago, let me pull it up again, please. [6] You mean the typed note or the [7] handwritten note? [8] Q: The typed OR report. [9] A: Give me one second here. [10] (Pause) [11] Q: I'm referring to the one that [12] was for the reoperation, the exploration. [13] A: Yes, I have it in front me. [14] Q: Okay. In the first paragraph [15] under the brief history — [16] A: Yes. [17] Q: — Muehlebach indicates that he [18] had chest tube drainage that was minimal and [19] then abruptly drained 350 ccs from his chest [20] tube within 15 minutes. [21] Would you agree that that is [22] excessive bleeding and that that should have [23] warranted an immediate trip to the OR? [24] A: I agree, and as you said in the [25] next line, the patient was immediately taken to
Page 154	Page 156
[1] Oz [2] At Columbia Presbyterian when a [3] postop patient is hemorrhaging, does it take an [4] hour to get them back into surgery? [5] A: Frequently, but it depends, [6] again, how much they're hemorrhaging. [7] A patient who has put out 250 [8] ccs, that will be the norm. By the time you [9] get anesthesia in from home, get the cell saver [10] system hooked up, get the patient actually [11] bundled up with the drips and moved to the [12] operating room and transferred to the new OR [13] table, that hour period is the norm. [14] Q: And if it was considerably more [15] bleeding than that, would you expect it to be [16] quicker into surgery? [17] A: Of course there are times when [18] we'll just pack them as fast as we can, take [19] the risks that we may pull things out in [20] transfer and get them over there in 10 or 15 [21] minutes. [22] Q: Did you read Dr. Muehlebach's [23] report of the second operation? [24] A: In his deposition or the [25] hospital chart?	[1] Oz [2] operating room. [3] Q: The 250 plus another 100 that [4] occurred within 15 minutes is recorded at line [5] O at 2210? [6] A: Yes. [7] Q: Is it your opinion that this [8] patient went to surgery within an hour? [9] A: No, it looks like it took an [10] hour and 20 minutes to get to surgery. [11] Q: Doctor, he had a mean arterial [12] pressure of 45 before leaving the unit. [13] Would you agree that a mean [14] arterial pressure in that range placed James [15] Long at risk for brain injury? [16] A: I have had numerous patients who [17] have had, without atherosclerosis of their head [18] vessels, who had that blood pressure for an [19] hour or longer and not had any neurologic [20] sequelae at all. [21] Q: Are there some patients that [22] will have neurological sequelae when the mean [23] arterial pressure is down to 45? [24] A: I believe there would be, and [25] there are a constellation of issues that could

Page 157 [1] or [2] lead to that but, yes, it's — some will. [3] Q: Now your report also referred to [4] tamponade physiology. [5] Does that differ from what we [6] have been talking about as far as tamponade? [7] A: Which — I say it several times. [8] Is it, again, that second paragraph on the [9] second page? [10] Q: You've mentioned — well, there [11] is in the second paragraph in the — on the [12] second page does indicate sudden blood loss [13] causes tamponade physiology, and I'm asking — [14] we've been talking about cardiac tamponade and [15] I'm wondering what you mean by a "tamponade [16] physiology"? [17] A: Tamponade physiology in this [18] setting to me means inadequate perfusion [19] pressure caused by blood accumulating around [20] the heart. [21] Q: In your opinion James Long did [22] have an accumulation of blood around his heart [23] that then caused him to go into cardiac [24] decompensation? [25] A: That's my summary of what	Page 159 [1] OZ [2] Q: After he had his reoperation, [3] did he have any evidence of right heart [4] dysfunction? [5] A: You have the — where is the [6] post — is this the CVP of — is the post — I [7] want the flow sheet when he gets back to the [8] ICU. [9] Yeah, he does, actually, and [10] I — I noted it not in the report but when I [11] read it the first time, and this is very, very [12] common. [13] Because when patients get a lot [14] of fluid, as he did, it takes them a while to [15] digest that fluid, so to speak. It hangs [16] around in their intravascular space, it leads [17] to changes in their lung resistance, and will [18] give them transient elevations in central [19] venous pressure. [20] What you see at 2:30 in the [21] morning is a CVP of 20, which is a number [22] that — that was the worst it got [23] preoperatively, and continues to — in that [24] vein and drops a few millimeters over the next [25] six hours.
Page 158 [1] or [2] happened, yes. [3] Q: And do you have an opinion as to [4] when this tamponade physiology first started? [5] A: I think that it became critical [6] to this patient at 2310. Because that's when a [7] blood pressure which had been fairly stable for [8] the prior hour dropped down below 90 again and [9] when they went up on the Levophed. [10] Q: But my question was when did it [11] first sort? When did the tamponade first — [12] physiology first start, if you can tell me? [13] A: Well, if I define tamponade [14] physiology by a tamponade condition that causes [15] inadequate blood flow or some optimal blood [16] flow, better stated, to the rest of the body, [17] then that would be the right time point. [18] When did it start? The moment [19] they opened his chest at the first operation, [20] because that's when he first got blood around [21] his heart, so those first few corpuscles of [22] blood were accumulating hours earlier. [23] But it only created a problem [24] for this patient that I think was an urgent one [25] at 2310.	Page 160 [1] OZ [2] Q: So based on his central venous [3] pressure you feel he continued to have signs of [4] right ventricular dysfunction after surgery? [5] A: Well, we don't really call it [6] right ventricular dysfunction, we use — it's [7] right-sided circulatory dysfunction. [8] But the sort of the lay [9] equivalent would be right heart failure. [10] Q: Do you have any criticisms of [11] the nursing care that James Long received while [12] he was in the ICU? [13] A: No. [14] Q: Are you critical of the nurses [15] for failing to take pulmonary artery pressures [16] for the last two hours and 20 minutes that he [17] was in the ICU? [18] A: No, because the cardiac index is [19] really telling you what you needed to know. [20] There did not seem to be lot of concern over [21] whether or not left-heart dysfunction was the [22] biggest problem here. [23] The PA pressures had been [24] measured prior to that. The cardiac index was [25] a — was a more important variable, and it was

Page 161	Page 163
[1] Oz [2] measured up 'til 2210. [3] Q: But for the last hour and 20 [4] minutes you have no idea what his cardiac index [5] was, correct? [6] A: That's correct. [7] I suspect at 2200 or so, [8] although I don't know exactly how the packaging [9] is done, they were focusing their efforts on [10] moving him. [11] So it would not be uncommon for [12] the last 20 minutes to a half hour for them not [13] to have those kinds of numbers present. [14] Q: Would pulmonary artery pressures [15] have provided any additional information [16] regarding James Long's heart function? [17] A: Not at that point any more, no. [18] Q: In your ICU how often do the [19] nurses do pulmonary artery pressures on [20] postoperative aortic valve patients? [21] A: When they first come to the ICU [22] they will do it every hour or so, but once you [23] get past the early period and there's some [24] comfort level around the fact there's no major [25] shift in them, then they'll start charting them	[1] Oz [2] I should say measuring — not [3] writing down the PA pressures would have been [4] acceptable. [5] Because the PA pressures were [6] probably on the monitor, easily readable by [7] anybody who wanted to know them, but I actually [8] don't think charting it, you know, every time [9] you write your note after you have been in the [10] ICU for four or five hours is that critical any [11] more. [12] Q: Doctor, isn't one of the reasons [13] why they are written down so you can observe [14] trends in the PA pressures? [15] A: Of course, and they did write [16] them down for several hours. [17] But you observe trends. If [18] there is no trend, if it's a flat line, there [19] is no significant benefit to the patient, which [20] is ultimately their goal, of continuing to [21] chart a number that is not changing. [22] This patient's PA pressure when [23] they came to the ICU was 28/10, and when they [24] stopped recording them it was 33/21. [25] These are essentially the same
Page 162	Page 164
[1] Oz [2] every few hours instead of every hour. [3] Q: And in this instance the nurses [4] stopped doing pulmonary artery pressures during [5] the time period when his blood pressure was [6] below 90 systolic with epinephrine running and [7] Levophed running. [8] In your opinion was that [9] appropriate for the nurses to stop doing the [10] pulmonary artery pressures when this patient [11] had labile blood pressure? [12] A: Well, the pressures were [13] increasing, actually, and the last measured [14] pulmonary arterial pressure which was, I [15] believe, at 2050 was done at a time when the [16] blood pressure was on the upswing. [17] It was 10-millimeters more than [18] it had been 20 minutes earlier, and it [19] continued to improve from there with no real [20] reason over the next two hours to think that [21] there was anything going on except good things [22] for this patient. [23] In our ICU, as I suspect in [24] their's, measuring the PA pressures would have [25] been less important.	[1] Oz [2] number, and they didn't vary more than 2 or [3] 3-millimeters of mercury in between that time. [4] Q: So why bother writing them down [5] at all? [6] A: You should write them early. We [7] would actually probably over this period have [8] charted it three or four times, not ten times, [9] which is what they did. [10] But for the reason you said, [11] appropriately state, you want to trend, follow [12] trends over time. [13] And so, you know, monitoring it [14] or, you know, writing it down, I should say, [15] every two or three hours is probably a [16] reasonable thing to do. [17] I don't think writing it down [18] more frequently than that is going to have any [19] impact. Especially on a patient who seem to [20] be improving. [21] Q: This patient had a portable [22] chest x-ray that was done, I believe, around [23] 1819 hour, around 6:19 p.m. [24] Do you have an opinion as to [25] whether a repeat chest film should have been

Page 165 [1] OZ [2] done on him? [3] A: It would not have been any [4] benefit, and I feel strongly that it would not [5] have been worthwhile. [6] And in our ICU we would never [7] have done it. [8] Q: If a repeat had been done and it [9] showed mediastinal widening, would that finding [10] having raised a concern for cardiac tamponade? [11] A: Not necessarily, because the CVP [12] had increased a little bit from the earlier [13] chest x-ray, so his right heart would swell, [14] and that could look bigger. [15] The pericardial space in these [16] patients is often, you know, swollen up [17] postoperatively, and they often have fluid [18] around their heart postoperatively, so we don't [19] place much attention on the chest x-ray. [20] The radiologic studies in these [21] patients are done for the doctor to feel better [22] usually. They generally don't play a major [23] role in assisting us, or convincing us in how [24] to act on our patients. [25] Q: What's your opinion as to the	Page 167 [1] OZ [2] accumulated around your heart, or you're [3] experiencing significant injury to your right [4] heart. [5] Q: Do you have an opinion as to [6] whether James Long was hypovolemic while in the [7] ICU? [8] A: I do not believe he was [9] hypovolemic because his CVP was high. [10] Q: Okay. And if his CVP — if he [11] was hypovolemic and they were giving him [12] fluids, would that mask some of the hemodynamic [13] changes that go along with cardiac tamponade? [14] MR. JACKSON: Objection, asked [15] and answered. You went through all [16] this before, Jeanne. [17] MS. TOSTI: Doctor, would you [18] answer my question, please? [19] A: Again, so the question, if I [20] recall from the first time, was you're giving [21] fluid to someone who is hypovolemic, will that [22] influence your ability to diagnose tamponade; [23] is that correct? [24] Q: I'm talking about James Long. [25] In this case, if he was hypovolemic, would it
Page 166 [1] Oz [2] typical chest tube output for a patient that [3] has undergone this type of surgery? What would [4] you expect on a hourly basis? [5] MR. JACKSON: I'm going to [6] object. I think you have been through [7] that already. [8] But go ahead, Doctor. [9] A: I would expect for the first [10] three hours to have around 200 ccs an hour of [11] drainage, and then over the next two hours or [12] three hours with a drop down to in the range of [13] 100 to 125. And then after that, after the [14] sixth or seventh hour to drip down below 100 [15] and stay at that level. [16] Q: If there's a rise in the CVP [17] pressure and diastolic blood pressure, does [18] that — is that sometimes an indicator of [19] bleeding in cardiac tamponade? [20] A: I don't think the diastolic [21] blood pressure is all that helpful, but the CVP [22] can be helpful. [23] And if your CVP was seven and [24] all of a sudden it was 20, that's a pretty good [25] sign that you probably have some fluid	Page 168 [1] OZ [2] mask finds of cardiac tamponade? [3] A: I don't think it actually masks [4] him, I think it would actually reveal tamponade [5] earlier. [6] Because hypovolemic patients do [7] not tolerate tamponade. They decompensate much [8] more quickly. And, in fact, the first [9] treatment for tamponade is to give fluid so [10] that they recover and they can tolerate, you [11] know, going back to the operating room or at [12] least whatever other test you think you want to [13] do before you go back to the operating room. [14] Q: Doctor, should the nurses have [15] been milking or squeezing James Long's chest [16] tubes at regular intervals to keep them free [17] from clots? [18] A: There's been discussion about [19] the value of milking chest tubes in our ICUs [20] since I was a resident; and some nurses do it, [21] some don't. [22] I've never personally felt [23] convinced that milking them makes all that much [24] of a difference. Because they don't clot in [25] the tube, they clot around the tube inside the

Page 169	Page 171
[1] Oz [2] chest. And so applying high degree of negative [3] suction transiently, sort of shutters the chest [4] tube and, you know, potentially could dislodge [5] some clot. [6] But it actually hurts patients [7] quite a bit if they're beginning to awaken, and [8] we generally do not do it. [9] Q: For your patients in the ICU do [10] the nurses do it on your patients? [11] A: Not generally, no. [12] Q: Is that a choice that is made by [13] the individual surgeon? [14] A: No, it's made by the nurses. [15] Q: That they want the nurses to do [16] that? [17] A: No, it's not made by the [18] surgeon, it's made by the nurses. This is part [19] of their art. [20] And if they feel milking the [21] chest tubes helps them keep better track of [22] what is going on, you know, then we let them do [23] that. [24] Q: Now I believe your report [25] indicates on page 2 in paragraph 3 that	[1] Oz [2] which hospital it is, attending staff in the [3] ICU at night, they will play a role obviously [4] as well. [5] Q: My question was in regard to [6] James Long in this case. So who do you feel [7] was responsible for that management? [8] A: It would seem to be [9] Dr. Muehlebach and the two nurses who were in [10] charge of Mr. Long will be the ones who take [11] primary responsibility. [12] Q: What about Dr. Hernandez? [13] THE WITNESS: He was the [14] resident; wasn't he? [15] MR. JACKSON: Yes. [16] A: Dr. Hernandez as well would be [17] involved in observing it. [18] But I'm trying to, as most of us [19] do, identify the point person, the decision [20] maker on the team. And I think that would have [21] been Muehlebach more than Hernandez, if I [22] remember their hierarchy correctly. [23] Q: Did Dr. Yared have any [24] responsibilities for managing this patient in [25] the postoperative ICU in regard to his surgical
Page 170	Page 172
[1] Oz [2] additional testing could have delayed the [3] return to the operative suite. [4] What test are you referring to? [5] A: Echocardiograms, chest x-rays. [6] Q: What point in time are you [7] referring to them delaying the return to the [8] operative suite? [9] A: After 2230 or so. [10] When people became — when [11] Dr. Muehlebach became aware it seem at 2250 [12] that there had been a significant increase in [13] chest tube output, so certainly from the time a [14] physician was clearly aware there was a chest [15] tube drainage issue, the wrong move would have [16] been to order a bunch of tests and go back to [17] sleep and await the results of these studies. [18] Q: Who in your opinion from a [19] medical perspective was responsible for [20] monitoring James Long while he was in the ICU? [21] A: It's a shared responsibility [22] between the nurse who is — and other members [23] of her team taking care of the patient and the [24] resident or house staff involved in the care. [25] If there are still, depending	[1] Oz [2] problems, chest tube drainage? [3] A: I don't believe so, no. [4] I don't think that's how their [5] ICU runs, but that is an institution specific [6] process, and I really can't make a judgment on [7] that. [8] Q: When James Long had 250 ccs of [9] output from his chest tube at 2210 hour, should [10] he have been seen by a physician at the [11] bedside? [12] A: No, because his blood pressure [13] was continuing to be stable. [14] As I mentioned for the first [15] 250, it would not have been uncommon for him to [16] periodically dump fluid out of those chest [17] tubes. [18] Without other evidence that [19] there was something going on that was [20] detrimental to his well being, he should have [21] been seen on the regular rounds that would [22] occur. But there was no urgency of it [23] happening right then. [24] In fact, at 2250 his blood [25] pressure was as high as it had been at 2210.

Page 173 [1] Oz [2] Q: Now would you agree that when a [3] serious complication occurs early in the [4] postoperative period that the surgeon has a [5] duty to keep the patient's family informed [6] regarding the patient's condition? [7] MR. JACKSON: Objection. [8] Go ahead, Doctor. [9] A: I'll tell you our protocol. I [10] generally avoid calling patient's families [11] between 10, 11 and 6:30, 7 in the morning, and [12] I don't call them — unless there is something [13] that I need to let them know that was clearly [14] bad for the patient, like they died, because [15] with the example of postoperative bleeding, it [16] awakens everybody, it alarms the family, they [17] don't go back to sleep again, and they spend [18] the entire evening fretting over what in most [19] cases is an uneventful reexploration and [20] solution that is handled by the surgical team. [21] So the first thing the next [22] morning I will call the family and try to catch [23] them at home, usually around seven in the [24] morning, and alert them to the fact that we [25] went back to the operating room, that if things	Page 175 [1] Oz [2] operating room when it became less clear to me [3] that he had any profusion pressure. [4] I say that having been in this [5] setting many times, and when you're [6] transferring drips and lines and all the other [7] things that are happening when you transport a [8] patient, there are periods of time when you [9] really just don't know what the blood pressure [10] is. [11] Q: Do you have an opinion as to [12] what point in time James Long's condition was [13] irreversible, in other words, his brain damage [14] was not going to — it was going to take place, [15] there was no treatment that was going to [16] reverse it? [17] A: I suspect that it was the five [18] to seven minute period around 2345. [19] Q: Now if James Long had recovered [20] from his aortic valve surgery neurologically [21] intact, do you have an opinion as to his likely [22] life expectancy? [23] A: From what I could read in the [24] chart, although I never met him, obviously, I [25] would have expected him to have a reasonable
Page 174 [1] OZ [2] are okay they're okay, and here's our game plan [3] for the following day. [4] Q: Do you do that personally if [5] you're the one that does the reoperation or if [6] it was your patient initially for the first [7] surgery? [8] A: I generally call myself out of [9] etiquette, but there have been times when I [10] have been tied up in another case already or an [11] emergency that I've asked the member of my team [12] to do so. [13] Q: And would you agree that the [14] surgeon should respond in a reasonably prompt [15] manner to inquiries made by the immediate [16] family of a patient that has suffered a [17] complication from surgery? [18] A: Yes. [19] Q: Is it your opinion that James [20] Long suffered neurologic complications as a [21] result of hypotension? [22] A: Yes. [23] Q: Do you have an opinion as to [24] when James Long's brain damage occurred? [25] A: I believe it occurred in the	Page 176 [1] Oz [2] life expectancy. These homographs will usually [3] last 15 years before the need to reoperate. [4] And most of the — and most of [5] the patients who have these homographs, I would [6] say more than 85 percent, will be alive at ten [7] years after the operation, if they're placed [8] for this indication. [9] Q: Do you have an opinion as to [10] whether his death was preventable? [11] A: I don't believe his death was [12] preventable by humans acting on the knowledge [13] that they had and with the experience that they [14] probably have gained over years working with [15] these patients. [16] Q: Do you have an opinion as to [17] what caused his death? [18] A: I believe it was sudden [19] hemorrhage associated with tamponade which [20] occurred in the late evening hours of his day [21] of surgery, 8/20/96. [22] Q: Now, Doctor, did you have an [23] opportunity to review the limited autopsy that [24] was done on James Long's heart? [25] A: I looked at the autopsy when I

Page 177	Page 179
[1] Oz [2] first reviewed this. I will look at it again. [3] I don't recall anything unusual about it. [4] Q: And is there anything in that [5] autopsy that is of importance to you in [6] formulating your opinions in this case? [7] A: Well, the hypertrophy of the [8] heart is an issue we talked about earlier, and [9] I won't go into again. There is literature on [10] the role of hypertrophy in curtailing life [11] expectancy that is pertinent to this gentleman. [12] The fact that he had a [13] mechanical bridge in his left anterior [14] descending artery I don't think is as relevant. [15] The rest of the report was [16] basically a weighing of different organs and [17] documentation of what his body looked like [18] without any real evidence that I think impacts [19] on my thoughts in this case. [20] Q: Now, over the course of time [21] that James Long was in the ICU, his hematocrit [22] hemoglobin were dropping, and I believe there's [23] a series of four values that appear on the [24] right-hand side of the flow sheet in one of the [25] last columns there.	[1] Oz [2] urine output while he was in the ICU? [3] A: Well, as I'm sure you know, [4] Lasix is called that because it lasts six [5] hours. [6] So although the initial impact [7] is early, it will increase urine output for up [8] to six hours. [9] Q: So in regard to this patient's [10] urinary output, if the patient was tamponading, [11] as you said he was at the end of his ICU stay, [12] the fact that he was still having urine output [13] of a sufficient quantity, could that have been [14] related to the Lasix? [15] A: Not any more after 2210. I [16] mean, he has a urine output of 250 ccs over a [17] 40-minute period, and that's a superb amount of [18] urinary output that long after arriving at the [19] ICU. [20] And so I think that was what he [21] was really doing. He had fluid on board, he [22] was able to urinate, he was adequately [23] profused, and we don't really have any evidence [24] that he was in shock or impending shock. [25] MS. TOSTI: We're almost
Page 178	Page 180
[1] Oz [2] Would that decrease that is [3] recorded in the hemoglobin and hematocrit be [4] suggestive of bleeding in this patient's case? [5] A: It would suggest that there was [6] bleeding, but only as the process got later in [7] the evening. [8] The initial hematocrit and the [9] hematocrit that was then at 1910 were both in [10] the mid 30s, which reflects really no bleeding, [11] effectively. [12] So only at — I don't know if [13] these hematocrits were the times when they were [14] sent or when they were received, but at 2110 [15] they report a hematocrit that is still over 30, [16] which is quite good for an open-heart surgical [17] patient. [18] Many of our patients are — have [19] hematocrits in the low 20s at this juncture, so [20] this gentleman did not have the kind of [21] bleeding that would worry me that much, on [22] average. [23] Q: Now, Doctor, this patient did [24] receive some Lasix intraoperatively. [25] Would that have an effect on his	[1] Oz [2] finished here, Doctor, let me just do [3] a quick look at my notes. [4] (Pause) [5] BY MR. JACKSON: [6] Q: Doctor, are you critical of any [7] of the medical care that was rendered to James [8] Long? [9] A: I'm not, and I did look at this [10] chart critically, because most 50-year-old men [11] having heart surgery don't die. But I find no [12] place in here where I would have the acted [13] differently. [14] Q: Have we covered all of the [15] opinions that you currently hold on this case? [16] A: This is — of the six [17] depositions I've been involved with, this has [18] clearly been the most thorough, so I want to [19] credit you for that. [20] I — everything that I ever [21] thought about this case has been revealed [22] during this deposition, I believe. [23] Q: And are there any opinions that [24] we haven't discussed that you hold in regard to [25] this case that you plan to provide at trial?

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[1] Oz
[2] A: None that I've thought of yet.
[3] MS. TOSTJ: Well, Doctor, if you
[4] should arrive at any new opinions that
[5] you tend to offer at trial, I'd
[6] appreciate it if you please let
[7] defense counsel know, and I would then
[8] reserve the right to continue your
[9] deposition relative to any new
[10] opinions that you have.
[11] With that, I think your
[12] deposition is completed, and I thank
[13] you for your time.
[14] THE WITNESS: Thank you very
[15] much.
[16] (Discussion off the record)
[17] THE WITNESS: Could I read the
[18] deposition when you complete it?
[19]
[20] (Continued next page; no
[21] deletions.)
[22]
[23]
[24]
[25]

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[1] Oz
[2] THE VIDEO OPERATOR: The time is
[3] 6:21 p.m., we're off the record. This
[4] ends our deposition for today.
[5]
[6] (Time noted: 6:21 p.m.)
[7]
[8]
[9]
[10]
[11] MEHMET C.OZ, M.D.
[12]
[13] Sworn and subscribed to before me, this
[14] _____ day of __, 2002.
[15]
[16] Notary Public
[17]
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[1]
[2] CERTIFICATE
[3] STATE OF NEW YORK)
[4])SS
[5] COUNTY OF NEW YORK)
[6]
[7] I, LINDA D. NOTO, a Certified
[8] Shorthand Reporter, Registered
[9] Professional Reporter and Notary Public
[10] within and for the State of New York, do
[11] hereby certify
[12] I reported the proceedings in the
[13] within entitled matter, and that the
[14] within transcript is a true record of
[15] such proceedings.
[16] I further certify that I am not
[17] related, by blood or marriage, to any of
[18] the parties in this matter and that I am
[19] in no way interested in the outcome of
[20] this matter
[21] IN WITNESS WHEREOF, I have hereunto
[22] set my hand this 27th day of May, 2002
[23]
[24] LINDA D. NOTO, C.S.R., R.P.R.
[25] License Number XI 01887 - N.Y.
License Number 001002 - N.Y.

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[23] Doctor has made on this case.
[24] 24 Current copy of the curriculum
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