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1 IN THE CIRCUIT COURT OF
2 THE FIFTEENTH JUDICIAL
3 CIRCUIT IN AND FOR PALM
4 BEACH COUNTY, FLORIDA

5 CASE NO. CA 03-00721 AO

6 MONIQUE BENTAL, Individually
7 and as Personal Representative
8 of the Estate of ELIE BENTAL

9 Plaintiff

10 vs.

11 JONATHAN I. SECKLER, M.D.,
12 THOMAS BARTZOKIS, M.D.,
13 BARTZOKIS AND SECKLER, M.D.,
14 P.A., ARISTIDES ZACHAROUDIS,
15 M.D., ARISTIDES ZACHAROUDIS,
16 M.D., P.A., JEFFREY N. BOTT,
17 M.D., JEFFREY N. BOTT, M.D.,
18 P.A., HEART SURGERY ASSOCIATES,
19 LLP

20 Defendants

21 _____/

22 The videotaped deposition of JOAO A.C. LIMA,
23 M.D. was held on Wednesday, December 13, 2006,
24 commencing at 10:23 A.M. at the Johns Hopkins Hospital,
25 600 North Wolfe Street, Blalock 524, Baltimore, Maryland
26 21287, before Sandra A. Slater, a Notary Public.

27 REPORTED BY: Sandra A. Slater, RPR, CSR

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9 Also present: Bernard Eisenberg, Videographer
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18 STIPULATIONS

19 It is stipulated and agreed by and between
20 counsel for the respective parties that the filing of
21 this deposition with the Clerk of Court be and the same
22 is hereby waived.

23 - - - - -

24 THE VIDEOGRAPHER: Today is December 13th,
25 2006. The time is approximately 10:22 a.m. My name is
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1 Bernard Eisenberg. I'll be operating the video
2 equipment. I'm representing Gore Brothers Reporting &
3 Video Company located at 20 South Charles Street, Suite
4 901, Baltimore, Maryland 21201.

5 This is the deposition of Joao Lima, M.D.
6 in the matter of Bental versus Seckler, et al, now
7 pending in the Circuit Court of the 15th Judicial
8 Circuit for Palm Beach County, Florida, case number CA
9 03-00721 AO. This deposition is taking place at Johns
10 Hopkins Medical Center, 600 North Wolfe Street, Blalock
11 Building, Baltimore, Maryland 21287 and was noticed by
12 the defendant. Will counsel please identify themselves
13 for the record.

14 MR. MITTELMARK: Michael Mittelmark on
15 behalf of the defendant, Dr. Zacharoudis.

16 MR. HERSKOWITZ: John Herskowitz on behalf
17 of the plaintiff, Monique Bental.

18 MS. STRAUSS: Marci Strauss on behalf of
19 Dr. Bartzokis and his professional association.

20 THE VIDEOGRAPHER: The deponent will now be
21 sworn in by Sandy Slater of Gore Brothers Reporting &
22 Video.

23 (The witness was sworn.)

24 THE VIDEOGRAPHER: Please begin.

25 Whereupon,
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1 JOAO A.C. LIMA, M.D.,
2 called as a witness, having been first duly sworn to
3 tell the truth, the whole truth, and nothing but the
4 truth, was examined and testified as follows:

5 EXAMINATION BY MR. MITTELMARK:

6 Q Good morning, Dr. Lima. Will you please
7 state your name so the members of the jury can hear you
8 clearly.

9 A Good morning. My name is Joao, J-O-A-O,
10 middle initials A and C, Lima, L-I-M-A.

11 Q Dr. Lima, could you give the members of the
12 jury your professional address.

13 A It's Johns Hopkins Hospital, Blalock 524,
14 600 North Wolfe Street, Baltimore, Maryland 21287.

15 Q What is your occupation, Dr. Lima?

16 A I'm a physician.

17 Q Do you have a specialty in the field of
18 medicine?

19 A I am a cardiologist.

20 Q Can you please give the jury the benefit of
21 the formal education and training that you have received
22 in order to become a physician with a specialty in the
23 field of cardiology?

24 A In the United States someone requires a
25 medical diploma to be able to undertake training in
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1 internal medicine which generally lasts between two and
2 three years. After that one chooses, if one chooses to
3 specialize in cardiology, then there is an additional
4 three to five-year training period after the internal
5 medicine training that is called the cardiology
6 fellowship in a credentialed program. Those are the
7 steps that are required for somebody to be eligible to
8 take the boards of cardiovascular disease.

9 Q Well, Dr. Lima, what I have in front of me
10 is a curriculum vitae. Can you describe what a
11 curriculum vitae is?

12 A Curriculum vitae is an itemized list of
13 what positions one has occupied and also itemizes the
14 publications and other projects and endeavors that are
15 of academic significance in one's professional life.
16 That's basically what the curriculum vitae is.

17 Q In your curriculum vitae it lists that you
18 have an M.D. degree from a school of medicine in Brazil.
19 What is the name of that school?

20 A It's called Federal University of Bahia,
21 B-A-H-I-A.

22 Q And after that you did a Post-Graduate
23 Scholar; where did you do that?

24 A At Hopital, H-O-P-I-T-A-L, Cardiologique,
25 C-A-R-D-I-O-L-O-G-I-Q-U-E, of Lyon, L-Y-O-N, in France.
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1 Q And what did you do after getting your
2 Post-Graduate Scholar?

3 A I returned to Brazil to finish residency in
4 internal medicine in Brazil.

5 Q And when did you finish that?

6 A I finished that in '90 -- no, in 1979.

7 Q And after that did you come to the United
8 States?

9 A I came to Johns Hopkins Hospital in 1980 as
10 a Post-Doctoral Fellow of the Fogarty International
11 Program.

12 Q And what is a fellow or a fellowship?

13 A A fellowship entails specialized training

14 either in research or in clinical medicine. In this
15 case when I first came to the United States my focus was
16 on research.

17 Q After you did your fellow at Johns Hopkins
18 what did you do?

19 A I did three years of research fellowship at
20 Johns Hopkins and I spent six more months in Calgary at
21 University of Calgary in Canada, and then I returned to
22 Brazil and I spent a couple of years practicing in
23 Brazil in Brasilia, Brazil, and then I decided to return
24 to the United States. And at that time I undertook
25 formal training in internal medicine here at Francis
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1 Scott Key Medical Center and then after that finished
2 cardiology fellowship, clinical cardiology fellowship at
3 Johns Hopkins Hospital.

4 Q And what is your current title at Johns
5 Hopkins University?

6 A I'm Associate Professor of Medicine and
7 Radiology. And I direct the cardiovascular imaging
8 program in cardiology.

9 Q In your curriculum vitae it lists things
10 such as licensure and certification and specifically
11 board certification. Could you explain to the jury what
12 a board certification is in the field of medicine?

13 A Board certification is -- consists in
14 fulfilling a series of requirements by which the
15 American medicine and then that is required by a board
16 of physicians to qualify a physician to practice a type
17 of specialty. Traditionally, these were organized along
18 the main subspecialties in medicine which are medicine,
19 surgery, pediatrics, and neurology, so on so forth, and
20 then later on it got even subspecialized, so within
21 medicine one can be board certified in cardiology which
22 deals with the heart, in nephrology that deals with the
23 kidney and so on so forth. So that's basically what
24 board certification means. It means the recognition by
25 a body of physicians that someone is qualified to
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1 practice that kind of medical specialty.

2 Q Dr. Lima, are you board certified in
3 internal medicine?

4 A I am.

5 Q Are you also board certified in
6 cardiovascular diseases?

7 A Yes, I am.

8 Q Dr. Lima, you mentioned earlier that you
9 underwent a three-year clinical fellowship in cardiology
10 at Johns Hopkins University in Baltimore. That's where
11 we are today.

12 A Right.

13 Q To your knowledge do all cardiologists
14 undergo a fellowship in cardiology?

15 A Yes. The length of the fellowship varies
16 from program to program. I would like to clarify. In
17 my case I spent three years as a research fellow and
18 two years as a clinical fellow, so the total time of my
19 fellowship at Johns Hopkins was five years which is
20 generally a little over most -- what most people do.
21 Most people will do in other programs three years. In
22 this program at least four years, so for Hopkins

23 cardiologists I'm not so off. In other words, a lot of
24 people here have done five years like I did. That's
25 what I'm trying to get at.

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1 Q Dr. Lima, do you have any membership in any
2 professional or scientific societies?

3 A Yes, several. I am a member of the
4 American College of Cardiology, a fellow of the American
5 College of Cardiology. I'm a fellow of the American
6 Heart Association Imaging Council, I think it's called
7 Cardiovascular Radiology Council. And I'm in the board
8 of the Society of Cardiovascular MR, MRI and I'm the
9 treasurer of the Society of Cardiovascular CT.

10 Q What is the American Society of
11 Echocardiography?

12 A It's -- again, it's a professional
13 association of cardiologists who dedicate most of their
14 time to the performance and interpretation, in this
15 country it's mostly interpretation of echocardiograms
16 which are studies obtained to delineate the function of
17 the heart, performance of the heart and heart valves.
18 That's what the American Society of Echocardiography is.
19 I am a member of the American Society of
20 Echocardiography as well.

21 Q Dr. Lima, your curriculum vitae also
22 discloses that you have editorial activities. What is
23 that?

24 A That means the information in medicine is
25 published in specialized journals and these journals

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1 rely on peer review for what they publish. The typical
2 structure consists of an editor in chief that has then a
3 group of individuals that are called associate editors
4 and these individuals then distribute the papers to
5 peers to review, and I am associate editor of the
6 Journal of the American College of Cardiology called
7 JACC and I think I'm in the associate board -- I mean in
8 the editorial board of the Journal of Cardiovascular
9 Medicine as well. But I am not 100 percent sure at this
10 point. I don't know when it -- I used to be. I don't
11 know if I am, but I review, I review articles. I'm a
12 reviewer for the New England Journal of Medicine for
13 circulation, for circulation research for most of the
14 journals that deal with cardiovascular medicine.

15 Q The CV that I'm looking at has a
16 bibliography on it and it discloses publications. The
17 first list of publications has 74 peer reviewed
18 articles.

19 MR. HERSKOWITZ: Objection, leading.

20 Q What does that mean?

21 A That means that that article was reviewed
22 by peers before publication. It was not an article that
23 was invited by the journal. It was an article that was
24 submitted to the journal for publication, then got
25 distributed to peers, was reviewed and only after that

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1 review the manuscript was published. That's what a peer
2 reviewed manuscript means.

3 Q Your curriculum vitae also lists book and
4 book chapters. What is that?

5 A I have edit a book on imaging, diagnostic

6 imaging, and I have written chapters for several books,
7 books of internal medicine but mainly books in
8 cardiovascular medicine, like the recent book from Dr.
9 Topal which is called Textbook of Cardiovascular
10 Medicine.

11 Q One of the book chapters on your CV is
12 entitled Transesophageal Echocardiograph or
13 Echocardiography. Can you tell the jury what that book
14 chapter is about?

15 A That book chapter is about the use of a
16 special type of echocardiogram which is obtained
17 actually by introducing a transducer through the
18 patient's mouth and after the patient swallows it obtain
19 pictures of the heart from the stomach or from the
20 esophagus. So from that area you eliminate the barriers
21 of the chest wall, the bony structures, and you can get
22 a much better view of the heart in special situations.
23 We use it much less than the regular transthoracic
24 approach but in this hospital we do a lot of these
25 studies just because it is a very large hospital.

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1 Q Is it fair to say, Dr. Lima, that you've
2 been writing articles and books on echocardiography from
3 1980 to the present?

4 A Yes, and I directed the echo lab at Johns
5 Hopkins Hospital for five years, from '98 to I think
6 2003 or 2002, four or five years.

7 Q In 1998 you wrote a chapter entitled
8 Echocardiography in Patients with Acute Myocardial
9 Infarction in Diagnostic Imaging in Clinical Cardiology.
10 What was that chapter about?

11 A It was a chapter describing what happens or
12 how you can use echocardiography or echocardiograms to
13 diagnose or to identify problems in patients who had
14 myocardial infarction, so the potential complications
15 after patients had myocardial infarction and what to
16 expect when you use ultrasound to make the diagnosis.

17 Q Previously you testified that you were the
18 Director of Echocardiography at Johns Hopkins for
19 approximately five years. What were your duties when
20 you were the Director of Echocardiography?

21 A I was responsible for all the operations of
22 the echocardiography lab. The echocardiography lab in
23 this hospital is a very busy operation. The lab at the
24 time performed, and I think performs even more now, 11
25 to 12,000 studies a year. So I basically hired

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1 sonographers, took care of operations and I interpreted
2 a good one-third of all these studies. So I used to
3 interpret about 3500 studies a year about, about that.

4 Q As part of your job duties at Johns Hopkins
5 were you also the Program Director of Transesophageal
6 and Stress Echocardiography at Johns Hopkins?

7 A Yes. There was some transesophageal
8 echocardiography performed here before I came back from
9 the University of Pennsylvania, but I was basically
10 hired back to formalize the transesophageal
11 echocardiography laboratory and to begin stress
12 echocardiography. So in 1993 when I came back that was
13 my -- that's where I -- that's why I was recruited back.
14 So I started the lab then and I directed that lab for,

15 you know, almost 10 years, that service.

16 Q Dr. Lima, in your CV there is a section
17 entitled abstracts. I counted approximately 20 of them.
18 Can you please tell the jury what abstracts are
19 referring to?

20 A Abstracts are summaries of a research
21 project that are submitted to meetings and for
22 presentation in large meetings like the American Heart
23 Association meetings, the American College of Cardiology
24 meetings. I generally list only the most recent
25 abstracts. That's why the list is generally about 20

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1 abstracts. That includes the last couple years of
2 research activity in my lab.

3 Q Dr. Lima, in your curriculum vitae it also
4 lists numerous past and active research grant
5 participation. What is that?

6 A That's actually most of what I do now.
7 It's research sponsored by either the National Institute
8 of Health which is the main sponsor of what I do right
9 now, but also by foundations, private foundations that
10 sponsor research. So grants and contracts are, so to
11 speak, the mechanism by which a lot of the activity,
12 research activity, scientific activity is funded at
13 Johns Hopkins University. And that's why I really quit
14 as being director of the echo lab because those
15 activities were more important to me and they were
16 becoming very voluminous in terms of time requiring.

17 Q So right now we're at Johns Hopkins
18 University and you are an Associate Professor of
19 Medicine?

20 A Yes.

21 Q You're also an Associate Professor of
22 Radiology?

23 A Yes.

24 Q And an Associate Professor of Epidemiology?

25 A Yes, I didn't mention that but I have that

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1 title as well.

2 Q Can you break down in terms of percentages
3 or however you find to try and explain to the jury what
4 it is that you do as an Associate Professor of Medicine,
5 Radiology and Epidemiology?

6 A Yes, right now, as I was mentioning, I do
7 -- most of my time is spent on clinical research, so I
8 do research with patients probably about 70 percent of
9 my time. I still direct the cardiovascular CT service,
10 which is a service that's mainly concentrated in
11 research at Johns Hopkins, and that's basically what I
12 do.

13 So when I first came back from the
14 University of Pennsylvania I got recruited back at
15 Hopkins I was mainly clinical. I was 70 percent
16 clinical and 30 percent research, about that. And that
17 proportion has inverted itself. So I'm much more of
18 clinical researcher in the last two, three years, maybe
19 more, three, four years.

20 Then I still have clinical activities but
21 they are not nearly as voluminous as they used to be up
22 to when I quit as being director of the echo lab.

23 Q And when you mentioned clinical activities

24 does that include admitting patients to the hospital?

25 A Yes. I still function as the cardiologist

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1 du jour, so to speak, for a month at Johns Hopkins
2 Hospital generally broken down in two weeks in August,
3 two weeks in June, around this time. It's not fixed but
4 so during that time I am the cardiologist of anyone who
5 comes to Hopkins and doesn't have a cardiologist in the
6 staff. And I also answer any questions related to
7 cardiology from any service at Hopkins. So that's what
8 I do during that period of time, and I like patient care
9 so I keep that activity and the connection with
10 cardiology.

11 Q Dr. Lima, as part of your clinical
12 activities do you perform and interpret echocardiograms?

13 A I have performed and interpreted
14 echocardiograms all my professional life up to I think
15 two years ago when the research volume has become so
16 large that I had to give that up. But at one point I
17 used to perform all the transesophageal studies in this
18 hospital which I remember one year amounted to be 540
19 some.

20 Q That's a lot.

21 A And read, as I said, a good 3500 studies a
22 year. That was the --

23 Q Well, let me ask it this way. Could you
24 give the jury an estimate of how many echocardiograms
25 you've interpreted in your career as a board certified

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1 cardiologist?

2 A Well, as since I've been at Hopkins I think
3 interpreted between 3,000 and 3500 a year and that was
4 about 10 years, so I interpreted at least 30,000 echos.
5 And at the University of Pennsylvania I did the same
6 thing, so I'm not even counting those but, you know,
7 it's around that.

8 Q And I know I keep talking about
9 echocardiograms but could you try and explain to the
10 jury what an echocardiogram is?

11 A An echocardiogram is a very useful study,
12 that's why we do them so often in this hospital. It is
13 based on emitting ultrasound waves into the chest and
14 then receiving them back and creating an image of the
15 heart from the reflected ultrasound waves. And that
16 test allows you to assess the function of the heart
17 muscle, the valves of the heart and also the structures
18 that surround the heart. And because it doesn't entail
19 any risk to the patient and it doesn't really entail
20 discomfort, the transthoracic test is noninvasive,
21 completely noninvasive. And it's portable, you can take
22 the machine to the bedside. Because of those
23 characteristics the test is widely used, not only here,
24 everywhere, but at Hopkins it's one of the most ordered
25 tests in this entire system because of these features.

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1 It gives a lot of information, it's noninvasive and
2 entails no risk.

3 Q Is Johns Hopkins one of the main facilities
4 that performs echocardiograms in this country?

5 MR. HERSKOWITZ: Objection, leading.

6 A Johns Hopkins, as I said, this test has

7 become so prevalent, so common in medicine that I would
8 say that nowadays we are one of the hospitals that
9 perform the most echocardiograms in the country, but one
10 of a long list. Now, this hospital played a major role
11 in the development of echocardiography in the 70's, but
12 nowadays -- and still, we still do research in refining
13 the test, but nowadays this is the test is utilized in
14 large scale in this country.

15 Q As part of your duties as an Associate
16 Professor of Medicine, Radiology and Epidemiology, do
17 you have an opportunity to teach medical students and
18 fellows?

19 A Yes. During that month that I'm the
20 attending cardiologist I actually teach medical students
21 and residents and fellow and fellows cardiology itself.
22 The rest of the time I generally teach cardiology
23 fellows who are performing research in cardiology at
24 Hopkins involving imaging. So a lot of my activity
25 relates to interacting with trainees who are interested

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1 in cardiovascular imaging, but nowadays it's more on
2 this sphere of I have much less interaction with medical
3 students or even residents. It's mainly the people who
4 have already committed to become a cardiologist.

5 MR. MITTELMARK: At this time I would like
6 to go ahead and introduce Dr. Lima's curriculum vitae as
7 an exhibit that has been previously marked as
8 defendant's Exhibit Number 43.

9 MR. HERSKOWITZ: And I'm objecting to the
10 admission of it.

11 Q Dr. Lima, I'm here in Baltimore taking your
12 deposition by videotape which we plan to play this video
13 at the trial in this matter. Could you please explain
14 to the jury why you are unable to come to West Palm
15 Beach to present your testimony in person in the
16 courtroom that's going to hold the trial?

17 MR. HERSKOWITZ: Objection. Relevance.

18 A I think the conflict in schedule relates to
19 a talk that I should give in Rhode Island during that
20 period of time. And that had been scheduled before and
21 it's a commitment that I can't cancel at this point. So
22 that's why, and I apologize for not being able to come
23 in person to that event, but I looked at every angle and
24 I could not cancel that previous commitment.

25 Q Dr. Lima, at my request have you had an
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1 opportunity to review the medical and hospital records
2 of Mr. Elie Bental?

3 A Yes.

4 Q Did that include the North Ridge Medical
5 Center hospital records?

6 A Yes.

7 Q Did it include the records of Dr. Seckler?

8 A Yes.

9 Q Did it include the records of Dr. Meyer
10 Cohen?

11 A Yes.

12 Q Did it include the echocardiogram that was
13 taken on September 11th, 2000 at North Ridge Medical
14 Center?

15 A Yes, it did.

16 Q Have you also had the opportunity to review
17 depositions that are relating to Mrs. Bental's lawsuit
18 against Dr. Zacharoudis?

19 A I reviewed Dr. Seckler's deposition, Dr.
20 Bartokis' deposition back when I was first interviewed
21 and I reviewed my deposition.

22 Q And when you were first deposed in this
23 case you also had an opportunity to review other
24 depositions such as Dr. Bott, Nurse Bailey, Nurse Webb,
25 Nurse Wagner?

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1 A Yes. The only physician, that Dr. Meyer
2 Cohen, is I don't -- I recall -- I'm not sure I reviewed
3 his -- I reviewed his deposition at the time that I was
4 first interviewed but this was sometime ago. I haven't
5 re-reviewed it.

6 Q I didn't mean to interrupt you, I'm sorry.

7 A No problem.

8 Q Doctor, were you provided all the
9 information that you believe you need in order to render
10 the opinions that we are going to discuss today?

11 A I think so. I think I feel like I
12 understand -- I made an attempt to understand what went
13 on and I think I do.

14 Q After receiving the materials were you able
15 to formulate an opinion to a reasonable degree of
16 probability as to whether Dr. Zacharoudis deviated from
17 the required standard of care in his care and treatment
18 of Mr. Elie Bental?

19 A Yes, I reviewed the case to the point where
20 I think I can give an opinion on that.

21 Q In your opinion, Dr. Lima, did Dr.
22 Zacharoudis deviate from the acceptable standard of care
23 within a reasonable degree of medical probability in his
24 care and treatment of Mr. Elie Bental?

25 A No, I actually feel strongly that he did

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1 not deviate from the standard of care.

2 Q Dr. Lima, I'm going to start asking you
3 some questions about medical terminology, and the first
4 one I wanted to ask you about is cardiac tamponade.
5 What is cardiac tamponade?

6 A Cardiac tamponade refers to the condition
7 that after accumulation of enough fluid in the
8 pericardial sac that surrounds and stabilizes the heart
9 that fluid starts to then limit or impinge on the normal
10 function of the heart, pumping blood, and if it
11 increases to the point of preventing blood from being
12 pumped then you have a situation of hypotension, cardiac
13 arrest and death due to these accumulation of fluid in
14 this pericardial sac. There's only so much space for
15 the heart and whatever fluid there is in the pericardial
16 sac, so if you fill it with fluid then the heart doesn't
17 have any room to function and the patient succumbs.

18 Q Do you have an opinion after your review of
19 the records in this case whether Mr. Elie Bental
20 suffered from cardiac tamponade prior to 5 o'clock on
21 September 11th, 2000?

22 A I can't rule out that possibility but I
23 think it is about that time that became very apparent
24 that that was the problem underlying this, his

25 hemodynamic difficulties. It's not 100 percent but in
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1 medicine most situations are not 100 percent. So I
2 would say that if I had to list the probable causes of
3 his circulatory failure at that time I would put
4 tamponade as number one.

5 MR. HERSKOWITZ: I'm going to object.
6 Objection as to narrative, unresponsive.

7 Q Dr. Lima, do you recall when Dr.
8 Zacharoudis last wrote or last called in orders on Mr.
9 Bental?

10 A I think what I recall is that he called
11 orders around -- he was called around 5 a.m. and I think
12 during that time he called for albumen fluids and more
13 Diltiazem, Procainamide and Dilaudid. So those were --
14 these are drugs that one gives for somebody who is in
15 atrial fibrillation with a fast heart rate. Those were
16 steps that are congruent with that thinking and that's
17 what I recall he did as the last act.

18 Q And do you recall in this case whether Dr.
19 Zacharoudis interpreted an echocardiogram on Mr. Elie
20 Bental?

21 A Yes, actually the report I think is signed
22 by Dr. Zacharoudis and so there is evidence in my mind
23 that Dr. Zacharoudis interpreted the study on Mr.
24 Bental.

25 Q And at the time that Dr. Zacharoudis was
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1 calling in orders for Mr. Bental and interpreting the
2 echocardiogram, do you have an opinion as to whether Mr.
3 Bental was suffering from cardiac tamponade at that time
4 or those times?

5 A It's not evident that he was but I can't
6 rule it out entirely. That's basically it.

7 Q I know we talked about what is an
8 echocardiogram but you actually looked at the
9 echocardiogram in this case?

10 A Yes.

11 Q And in this case Dr. Zacharoudis dictated a
12 report on his echocardiogram findings. And what I'm
13 showing you is a copy of the echocardiogram report
14 that's contained in the North Ridge Medical Center
15 records.

16 A Yes.

17 Q And what I would like to do now is show the
18 jury or you could show the jury the echocardiogram and I
19 would like to know from you whether the interpretation
20 that Dr. Zacharoudis recorded is consistent with what's
21 contained on the report that he dictated.

22 A Yes, I've examined the echocardiogram
23 several times and I should say that in general the
24 report issued by Dr. Zacharoudis coincides with the
25 report that I would -- that I would provide except that
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1 I would probably estimate the ejection fraction to be
2 lower than he did, and I would probably place the
3 pericardial effusion which I agree with him that looked
4 small but to the inferior and lateral wall of the heart,
5 not the anterior wall of the heart. These are just
6 technical differences. I think the main difference
7 would be that I thought his L view function was worse

8 than what Dr. Zacharoudis indicated here. But again,
9 that's echocardiographers differ in terms of assessing
10 these parameters, and I don't think it makes a big
11 difference to the case anyway.

12 Q Dr. Lima, what I'm trying to do is show you
13 the echocardiogram that was interpreted by Dr.
14 Zacharoudis on September 11th and Dr. Zacharoudis wrote
15 that the cardiac chamber appears within normal limits.
16 Is that something that you would agree with that, your
17 interpretation?

18 A I agree. I think the right ventricle
19 appears a little slightly dilated but in general I agree
20 with Dr. Zacharoudis' assessment of that.

21 Q Dr. Zacharoudis wrote that there was
22 evidence of mild hypokinesis of the left or the LV, left
23 ventricle. Is that something that you agree with as
24 well?

25 A I do. I would probably place it as
0027

1 moderate instead of mild but again these are small
2 differences. I agree with his interpretation.

3 Q And what is hypokinesis?

4 A Hypokinesis means that a certain segment of
5 the heart is not contracting to the extent that it
6 should. That's basically what hypokinesis means. And
7 he called it mild, I would call it moderate but we both
8 agree that there was dysfunctional, segmental
9 dysfunction, so my interpretation coincides with his in
10 this regard.

11 Q And Dr. Zacharoudis grossly estimated the
12 ejection fraction at 45 to 50 percent and you believe
13 that it should be lower?

14 A Yes.

15 Q And a gross estimate is something that you
16 conclude by looking at something visually?

17 A Right.

18 MR. HERSKOWITZ: Objection, leading.

19 A It's like a visual assessment that takes
20 into consideration all the pictures that you've seen of
21 the heart, and I would probably place it at between 35
22 and 45 as opposed to 45 and 50 but, again, I should say
23 that discrepancies of that order are not uncommon
24 between two echocardiographers. So in general I agree
25 with his interpretation although I would call it more
0028

1 dysfunction than he did.

2 Q And what is the significance of a decreased
3 ejection fraction?

4 A It means that the heart is not working at
5 the level that it should. Normally our heart pumps
6 65 percent of the blood that it collects when it's
7 relaxed in diastole. And it's that 65 percent that is
8 called the ejection fraction of the left ventricle. In
9 this case he thought the ejection fraction was decreased
10 to 45 to 50 percent instead of 65 percent which is the
11 normal value. I would think that it's lower than that,
12 that it's probably 35 to 40 or 45 percent. These are
13 all visual assessments.

14 Q Dr. Zacharoudis wrote or dictated that
15 there was mild anterior pericardial effusion. What does
16 that mean?

17 A That means that he saw blood localized in
18 the pericardial space and I agree, I see that as well.
19 I just wouldn't place it at the anterior wall as he did,
20 I'd probably call it inferior and lateral but I would
21 still call it -- he calls it mild and I would call it
22 small like him.

23 Q When a cardiologist puts in a
24 echocardiogram report that there is mild anterior
25 pericardial effusion or mild inferior and lateral
0029

1 pericardial effusion is that the same thing as the
2 patient has cardiac tamponade?

3 MR. HERSKOWITZ: Objection, leading.

4 A No. That means only that there is a
5 collection of blood in the pericardial space that the
6 interpreter thought that was small, medium sized or
7 large. You know, in this case I would also call it mild
8 or small, at most medium, but I think I would probably
9 stay with small like he did. It's definitely not a
10 large pericardial effusion.

11 Q Is plural effusion the same thing as
12 cardiac tamponade?

13 A No, a pleural effusion means that fluid was
14 accumulated in the pleura space and the pleura are the
15 membranes that surround the lungs, not the heart. The
16 pleura is to the lungs as the pericardium is to the
17 heart. It's the membrane that involves the organ and
18 keeps it in place.

19 Q Is mild anterior pericardial effusion or
20 mild inferior and lateral pericardial effusion a common
21 finding in patients that are post coronary artery bypass
22 graft surgery?

23 A Yes.

24 MR. HERSKOWITZ: Objection, leading.

25 A Very common.

0030

1 Q Dr. Zacharoudis commented that the mitral
2 and aortic valve leaflets are opening and functioning
3 adequately. What does that mean?

4 A That means that the mitral and aortic
5 valves were performing correctly, opening and closing
6 adequately. I can't say that the technical level of
7 this echocardiogram allows us to be very precise but I,
8 like him, did not see any major dysfunction of the
9 mitral or aortic valve leaflets.

10 Q Dr. Zacharoudis wrote that there was no
11 evidence of any right-sided chamber collapsing during
12 diastole. What does that mean?

13 A That means that when you accumulate blood
14 in the pericardium and that pericardial effusion starts
15 to impinge on the function of the left ventricle of the
16 left heart, of the heart as a whole the first sign, or
17 one of the first signs is that you see the right side of
18 the heart, which are under lower pressures than the
19 left, collapse during diastole. So this is like a heads
20 up that the effusion is causing hemodynamic compromise
21 and he didn't see that and I agree, I didn't see it
22 either. I didn't see any signs of right-sided chamber
23 collapse.

24 Q In your education, training and experience
25 is the absence of evidence of any right-sided chamber

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1 collapsing during diastole a significant finding?

2 A I think it is. It's a significant finding
3 because, as I said, that tends to be one of the early
4 signs that tamponade is occurring and its absence in
5 this case is reassuring. It's not synaquinon (phonetic)
6 but it's reassuring.

7 Q Dr. Zacharoudis wrote that consider
8 repeating in the near future if needed. Is that an
9 appropriate recommendation?

10 A Yes, and I think it was well indicated that
11 because these situations evolve very fast in the case of
12 somebody who went through cardiac surgery and is in the
13 post operative operative period. The situation can
14 change very fast so recommending repetition of the study
15 is very appropriate.

16 Q Is it appropriate for cardiologists
17 ordering the echocardiogram and the cardiologist
18 interpreting the echocardiogram to communicate with one
19 another regarding the results of the examination of the
20 echocardiogram?

21 MR. HERSKOWITZ: Objection, leading.

22 A Yes, this is generally the case. It's
23 generally particularly if the patient is sick as in the
24 case of Mr. Bental that communication is very important
25 and very desirable.

0032

1 Q Based upon your review of the records and
2 deposition testimony in this case, do you know whether
3 Dr. Zacharoudis and Dr. Bartzokis communicated regarding
4 the results of the echocardiogram?

5 A I think I saw mention in Dr. Bartzokis'
6 deposition that Dr. Zacharoudis called him and discussed
7 with him the results of the echocardiogram.

8 Q And if Dr. Zacharoudis spoke with Dr.
9 Bartzokis that's a reasonable and prudent thing for a
10 cardiologist to do?

11 MR. HERSKOWITZ: Objection, leading.

12 A Yes, that was the right thing to do.

13 Q Now, if I can take you to the nursing notes
14 of about 5 a.m. on September 11th, if you just give me
15 the chart back for a second. Do you recall why Dr.
16 Zacharoudis was called at 5 a.m. in the morning by the
17 nurses?

18 A I think the nurses called him because his
19 blood pressure was low and his heart rate was high and I
20 think the nurse mentioned that she thought he was in
21 atrial fibrillation. That's as much as I recall.

22 Q Well, what is atrial fibrillation?

23 A Atrial fibrillation is a condition which is
24 common in the post op period of somebody who undergoes
25 heart surgery and it means the following. Normally, the

0033

1 heartbeat is conducted from the sinus node which is our
2 normal pacemaker, so to speak, and then it spreads from
3 the atrium which is the top chamber of the heart to the
4 lower chambers of the heart. When there is inflammation
5 after surgery and/or the atrium are under pressure,
6 dilated, may lose that function and therefore may become
7 -- the function of the top chambers become chaotic and
8 circular and only fortunately as a defense mechanism we

9 have a relay called the AV node and that AV node lets
10 only a few of these stimuli go down to the main chamber
11 of the heart, and that's the situation that is called
12 atrial fibrillation. Depending on how many, how many of
13 these stimuli the relay allows to pass through that will
14 define the heart rate of somebody who is in atrial
15 fibrillation. It's too much of a complicated answer but
16 that's basically what atrial fibrillation is. Sorry.

17 Q Well, to try and even make it more
18 complicated or not, there has been testimony in this
19 case about paroxysmal atrial fibrillation. What is
20 that?

21 A I think it's paroxysmal atrial
22 fibrillation. This means that the atrial fibrillation
23 is happening on and off, so if -- paroxysmal atrial
24 fibrillation relates to a situation where the atrial
25 fibrillation is not constant. It happens and then the
0034

1 normal pacemaker of the heart takes over function, so
2 the patient goes back into what we call sinus rhythm and
3 then it goes back into atrial fibrillation and if that
4 happens we call it paroxysmal atrial fibrillation.

5 Q So in this case at 5 a.m. the nurse's note
6 reflects that the patient's rhythm may flutter with a
7 range of 147 with patient being in sinus rhythm since
8 2241 which is, what is that, 10:41?

9 A Um-hum.

10 Q Vital sign check, blood pressure 72 over
11 44, complaint of not feeling well, clammy, cold, pale,
12 sore throat, Dr. Zacharoudis called, updated on patient
13 condition and new orders received. Patient remained
14 alert and verbal, being monitored. Based on that
15 nurse's note do you believe that Dr. Zacharoudis was
16 called and responded right away to the nurse's call?

17 A Yes, I think that interaction, as far as I
18 can judge from the records, was appropriate. The nurse
19 felt that the patient was in atrial flutter. Atrial
20 flutter is a type of rhythm that is similar to atrial
21 fibrillation but it's a little more organized than
22 atrial fibrillation. Dr. Zacharoudis was notified and
23 took the steps to treat it, so I think it was
24 appropriate.

25 Q And I know you testified earlier that Dr.
0035

1 Zacharoudis gave orders at 5 o'clock, but I'd like you
2 now to go to the actual orders in the chart. And Dr.
3 Zacharoudis called in at approximately 5 a.m.

4 A Okay.

5 Q It says 250 CC's of albumen. What is that?

6 A That's basically a protein that we normally
7 have in the blood and it's designed to increase the
8 volume, the blood volume. That's what that is because
9 if you infuse albumen then you attract fluid from the
10 periphery into the vascular space and that's what
11 albumen does.

12 Q The next order is for Digoxin .25
13 milligrams, IV push now, IV bolus with 0.9 percent
14 normal saline 500 CC's. What is that?

15 A That is given to increase the resistance of
16 that relay we were talking about. The AV node controls
17 the heart rate on somebody who is in atrial

18 fibrillation. And Digoxin is a drug that, among other
19 actions, it has the action of increasing the -- or
20 decreasing the responsiveness of the relay. So the AV
21 node becomes more resistant to past stimuli and what
22 that means is that the heart rate of the patient will
23 decrease. That's what he was attempting to do here. So
24 the albumen was to increase vascular space, the Digoxin
25 should decrease the heart rate.

0036

1 Q And previously you testified that you
2 believe Dr. Zacharoudis ordered Dilaudid, you believed
3 that Dr. Zacharoudis ordered Digoxin as opposed to
4 Dilaudid?

5 A Yes, Digoxin is another form of the same
6 medication. These are all Digitalis so he ordered
7 Digoxin which does the same thing.

8 Q And Dr. Zacharoudis ordered to continue to
9 give Cardizem CD 180 milligrams and Procainamide as long
10 as the blood pressure systolic is over 90. What is
11 that?

12 A Again, these were additional steps to try
13 to decrease. The Cardizem does the same thing the
14 Digoxin does, among other things. Cardizem decreases
15 the action of the AV node or decreases permeability of
16 the AV node. So he was trying to reduce the heart rate
17 on somebody who is on atrial fibrillation. Now,
18 Procainamide does something different. Procainamide
19 tends to make the atrium less prone to have atrial
20 fibrillation or atrial flutter. So with Procainamide he
21 was trying to make the patient go back to sinus rhythm.
22 So there were actions here to increase the blood
23 pressure, decrease the heart rate with Digoxin and
24 Cardizem and try to convert the patient back to sinus
25 rhythm with Procainamide.

0037

1 Q Based upon your education, training and
2 experience and your review of the medical records and
3 deposition testimony in this case, were Dr.
4 Zacharoudis's orders at 5 o'clock in the morning
5 reasonable?

6 A Yes, they were reasonable and it's
7 congruent with what he -- it would be congruent with
8 standard of care in that situation.

9 Q Based upon your education, training and
10 experience and your review of the medical records and
11 deposition testimony in this case, do you have an
12 opinion whether Dr. Zacharoudis deviated from the
13 standard of care by not coming into the hospital at
14 5 a.m. to do a clinical assessment of Mr. Bental?

15 A No, I think I don't because this is such a
16 common occurrence with in post -- in patients who had
17 cardiac surgery, so this is like routine care. I mean
18 I'm not taking light of what happened to Mr. Bental. I
19 would like to say, you know, this is tragic, that heart
20 surgery did not lead to a prolongation of his life, but
21 I should say that this is not a deviation from standard
22 of care because this is what is done commonly.

23 Q The nurses' notes at 6 o'clock in the
24 morning reflect that Mr. Bental's blood pressure was
25 164, his heart rate was 110 and his respirations were

0038

1 18. Would vital signs such as that give Dr. Zacharoudis
2 a reasonable lead that the orders that he gave at 5 a.m.
3 were in fact working?

4 MR. HERSKOWITZ: Objection, leading.

5 A Yes. I think if I were in his position I
6 would probably think that in the absence of any other --
7 any other new events that things were going in the right
8 direction. In other words, I can imagine that he felt
9 reassured that the steps he had taken were going in the
10 right direction.

11 Q Now, Dr. Zacharoudis received another call
12 according to the nurses' notes sometime around 7 a.m.
13 Did Dr. Zacharoudis respond to that call? And if you
14 want to take a look --

15 A 7 a.m.?

16 Q If you want to take a look at his orders.

17 A I don't really recall what -- what was the
18 response to that, to that call.

19 Q There's orders in the chart from Dr.
20 Zacharoudis that are timed at 8 a.m.

21 A Oh, yes.

22 Q Say stop the Cardizem, stop the Lopressor
23 medication. What is stop the Cardizem, what does that
24 mean?

25 A That means he thought that -- well, what

0039

1 Cardizem was doing here was I imagine that he had
2 ordered it to decrease permeability through the AV node
3 and it's something that is similar to what Lopressor
4 does. Now, the fact that he was stopping the order at
5 this point could be either one of two things. On one
6 side he could think that he could be decreasing AV nodal
7 response too much or it could be that he was afraid that
8 the Cardizem and Lopressor were affecting the
9 contractile function of the heart because those two
10 drugs have also that effect, and that perhaps he was
11 afraid that this could be that it could have too many
12 drugs on board that would reduce the force of
13 contraction of the heart.

14 Q And stop the Lopressor, what does that
15 mean?

16 A It means Lopressor is a beta blocker. It
17 does -- it does several things but in this case the two
18 things that are pertinent are that not only it reduces
19 again the permeability of the AV node so it reduces the
20 heart rate but it also reduces the force of contraction
21 of the heart. And so on somebody that has left
22 ventricular function that went through cardiac surgery
23 at this point he might have been worried that the
24 patient had too many drugs on board that decreased
25 cardiac contractile like Lopressor, like Cardizem and

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1 was stopping those.

2 Q Now, there's also an order above the stop
3 the Cardizem and stop the Lopressor for heparin.

4 A For heparin, yes.

5 Q And we haven't talked about heparin yet but
6 what is heparin?

7 A Heparin is an anticoagulant and heparin is
8 given in situations where you expect that blood clots
9 could be malignant, in other words, that blood clots

10 could cause detrimental effects. So here the heparin
11 was probably began because of the atrial flutter or
12 fibrillation, the fear that Mr. Bental could accumulate
13 a clot in the upper chamber of the heart that was the
14 contraction was disorganized by atrial fibrillation or
15 atrial flutter and that that clot would embolize and
16 cause a stroke or some other complication. So this was
17 a step to prevent blood clots from forming in the
18 atrium.

19 Q After these orders that Dr. Zacharoudis
20 gave at approximately 8 a.m. the vital signs show Mr.
21 Bental's blood pressure went up to 98 over 50 at 9 a.m.
22 and the patient says he was feeling better. Would that
23 give a reasonably prudent cardiologist a belief, a
24 reasonable belief that the orders that he gave were
25 working?

0041

1 MR. HERSKOWITZ: Objection, leading.

2 A Again, those were more signs that yes, that
3 he was moving in the right direction and I think at that
4 point, you know, what would be reasonable to think that
5 way, that the problem was atrial flutter or atrial
6 fibrillation which is common after bypass surgery and
7 that the steps taken had been -- had been effective in
8 at least increasing the blood pressure, making the
9 patient feel better even if the rhythm was not back to
10 sinus rhythm because I don't think we have any record
11 that the rhythm was back to sinus rhythm yet. I think
12 the heart rate had been under greater control because of
13 the Digoxin and all of these drugs that were on board
14 and decrease AV node function.

15 Q And based upon your review of the records,
16 the deposition testimony, was it your understanding that
17 Dr. Zacharoudis was signing off the care of Mr. Bental
18 as the cardiologist on Monday morning at approximately
19 8:30?

20 MR. HERSKOWITZ: Objection, leading.

21 A I don't have a -- I didn't see a written
22 sign off, formal sign off of the case. I think that if
23 Dr. Zacharoudis was taking care of the patient over the
24 weekend that would be the time where the transition
25 occurs, and if Dr. Bartzokis ordered the echo it meant

0042

1 in my view that he was already in charge of the patient.
2 When did that transition exactly happens, I didn't see a
3 record for that but I would imagine that it happens
4 during that period of time.

5 Q Now, there's laboratory data in the chart
6 that was taken after 5 o'clock in the morning, about
7 5:15, and it has an entry time of about 5:50 in the
8 morning. That there is a hemoglobin of 9.9 and a
9 hematocrit of 29.9. What are those numbers; what's a
10 hemoglobin and what's a hematocrit?

11 A Hematocrit is how much of the blood volume
12 is occupied by the volumes of red blood cells. And
13 typically 45 percent of our blood, of our blood volume
14 is red blood cell volume. It meant that in his case it
15 was fairly reduced to 29 percent. Hemoglobin means the
16 concentration of the protein that actually carries
17 oxygen in the blood and normally we have about
18 15 milligrams of protein and the fact that it was

19 decreased to 13 point --

20 Q 9.9 and 29.9.

21 A It meant that it was reduced and these
22 values are not completely unexpected for somebody who
23 went through heart surgery because one can lose a lot of
24 blood during the surgery. So I wouldn't be so perplexed
25 by these values. I think there was a drop and that
0043

1 drop, you know, is something that should be -- that
2 should have entered in the equation. I think it did
3 because an echocardiogram was ordered. But even the
4 drop can mean a lot of things like the albumen with the
5 expansion of the extra volume of the intravascular
6 volume can lead to drops in the hemoglobin so that --
7 it's -- you know, it's something that can be caused by a
8 lot of different mechanisms.

9 Q Based upon what you've seen in the chart
10 that was written by Dr. Zacharoudis, based on your
11 education, training and experience, based on your review
12 of the deposition testimony, have you seen any
13 deviations from the standard of care by Dr. Zacharoudis
14 on the morning of September 11th, 2000 through the time
15 that he read the echocardiogram?

16 A I really haven't. You know, as far as what
17 the records have shown and the studies that I have
18 reviewed I feel very confident that to say that I can't
19 identify any deviation from the standard of care.

20 Q I now want you to look at Dr. Zacharoudis's
21 progress note for September 10th, 2000. Just give me a
22 moment to find it. I'd like to take you through that,
23 if I could. On September 10th, 2000 Dr. Zacharoudis
24 sees Mr. Bental in his hospital room and writes a
25 progress note.

0044

1 A Right.

2 Q And based upon your review of the records,
3 this is the second day that Dr. Zacharoudis has seen Mr.
4 Bental?

5 A Right.

6 Q And Dr. Zacharoudis records mild shortness
7 of breath this morning, otherwise, no complaints except
8 for constipation?

9 A Right.

10 Q Dr. Zacharoudis records no chest pain?

11 MR. HERSKOWITZ: Objection, leading.

12 Q Do you see that where Dr. Zacharoudis --

13 A Yes, eating well.

14 Q What were the vital signs?

15 A The blood pressure was 115 over 70 and the
16 heart rate was 106 beats per minute and apparently the
17 patient was in atrial fibrillation. That's what I can
18 read from here. Again, this is from 9/10; am I correct?

19 Q Correct. So this is --

20 A Sunday.

21 Q Correct. And the respirations?

22 A Some crackles one-third from the base, I
23 mean the inferior third. That's about what I can make.

24 Q Did Dr. Zacharoudis record positive breath
25 sounds bilaterally?

0045

1 A Yes, and there was no S3. It says S1 and

2 S4, negative for S3. So no signs of failure of the
3 heart, no signs of heart failure by oscillation.

4 Q And if Dr. Zacharoudis wrote cardio S1, S2
5 irregular, what does that mean?

6 A It means that the beats of the heart were
7 not regular and that coincides with his assessment that
8 the patient was in atrial fibrillation. When you were
9 in atrial fibrillation the beats of the heart become
10 irregular. They are not equally spaced as they normally
11 are if you are in sinus rhythm.

12 Q The impression that Dr. Zacharoudis wrote
13 was paroxysmal atrial fibrillation. Currently in a-fib
14 meaning currently in atrial fibrillation, mild
15 congestive heart failure. What did Dr. Zacharoudis
16 order as a result -- what was his plan as a result of
17 his impression of atrial fibrillation?

18 A I think he ordered heparin according to
19 protocol. He ordered Lasix to decrease the volume,
20 blood volume, and Digoxin, as I said, to an attempt to
21 reduce the heart rate during atrial fibrillation by
22 reducing the function of the AV node and Procainamide so
23 he was hoping to keep the patient off atrial
24 fibrillation and to convert the patient back to sinus
25 rhythm. I think that's what I see here.

0046

1 Q Do you have an opinion within a reasonable
2 degree of medical probability whether all of Dr.
3 Zacharoudis's orders on September 10th, 2000, including
4 the order for heparin, was reasonable?

5 A Yes.

6 MR. HERSKOWITZ: Objection, leading.

7 A I think according to what I -- the way I
8 practice, I think that would be reasonable.

9 Q And why do you believe the use of heparin
10 is reasonable?

11 A Well, there is a lot of discussion about
12 how aggressive one should be in terms of preventing
13 clots in the atrium. I side with those that tend to be
14 more aggressive, in other words, patients with atrial
15 fibrillation. The main thing becomes preventing clots
16 to form in the atrium, and in somebody who is post op
17 from cardiac surgery, heparin would be the way to go.

18 Q Now, we know from your previous testimony
19 the next time Dr. Zacharoudis was contacted about Mr.
20 Bentel after his September 10th, 2000 progress note was
21 that 5 a.m. phone call from the nurse?

22 A Yes.

23 Q And your previous testimony was that there
24 was no deviation from the standard of care from Dr.
25 Zacharoudis, that he had to come in at 5 o'clock in the

0047

1 morning after he got that phone call?

2 MR. HERSKOWITZ: Objection, leading.

3 A I don't think so. I think that, you know,
4 he saw the patient on Sunday, he was in atrial
5 fibrillation. If somebody called him at 5 a.m. and told
6 him that the heart rate was faster and the blood
7 pressure was lower, I think the first thing on his
8 differential list was probably that the atrial
9 fibrillation had become worse and that he moved to treat
10 that. So I can't really blame him for not coming in or

11 relying on his assessment which I think would be the
12 regular standard of care.

13 Q Based upon your education, training and
14 experience and your review of the medical records and
15 deposition testimony, what is your opinion whether Dr.
16 Zacharoudis's care and treatment of Mr. Bental was
17 within the standard of care for his visit of
18 September 10th, 2000?

19 A I think it was appropriate.

20 Q And the same question regarding the orders
21 that Dr. Zacharoudis gave at 5 o'clock in the morning.

22 MR. HERSKOWITZ: Asked and answered,
23 objection.

24 A Again, I think they were appropriate. I
25 mean I think they follow a reasonable thinking that the
0048

1 main problem was atrial fibrillation or atrial flutter
2 which, as we discussed, is not an uncommon complication
3 of bypass surgery.

4 Q And do you have an opinion as to whether
5 Dr. Zacharoudis deviated from the standard of care
6 regarding the orders that he gave at approximately
7 8 a.m. in the morning of September 11th, 2000?

8 MR. HERSKOWITZ: Asked and answered,
9 objection.

10 A No, I think they were appropriate. I don't
11 know exactly what was his thinking at that period of
12 time. It appears to me that he started thinking that
13 maybe LV dysfunction was playing more of a role than he
14 believed before because he discontinued the beta blocker
15 and the Diltiazem which are both drugs that decrease the
16 function of the heart, and I imagine that that was the
17 -- that because one would stop those drugs either
18 because the heart rate would be too slow or because some
19 concern with left ventricular function and the echo
20 proved that he -- you know, it was appropriate to be
21 concerned about that because the patient did have
22 significant left ventricular dysfunction.

23 Q And based upon your education, training and
24 experience and your review of the medical records,
25 testimony and the echocardiogram in this case, do you
0049

1 have an opinion whether Dr. Zacharoudis deviated from
2 the standard of care in reviewing the echocardiogram
3 that was taken on Mr. Bental?

4 MR. HERSKOWITZ: Objection, asked and
5 answered.

6 A No, I think -- I think he -- I think the
7 interpretation of the echocardiogram is appropriate. I
8 mean it wouldn't coincide exactly with my interpretation
9 but I think, as I pointed out before, no two
10 interpretations coincide exactly, and the deviations are
11 not important to the point where I would imagine -- that
12 I would consider it inappropriate in any way. I think
13 it was an adequate interpretation.

14 Q Dr. Lima, you don't work for free, do you?

15 A I don't.

16 Q I agreed to pay you for your expertise as a
17 board certified cardiologist at Johns Hopkins?

18 A Yes.

19 Q How much are you charging me today for your

20 expertise as a board certified internal medicine
21 physician, board certified cardiologist familiar with
22 performing and interpreting echocardiograms such as the
23 one Dr. Zacharoudis interpreted on this event?

24 A \$500 an hour. That's the standard fee.

25 Q Based upon your education, training and

0050

1 experience and your review of the medical records and
2 deposition testimony, would you agree that there was no
3 evidence that Mr. Bental was tamponading during the time
4 that Dr. Zacharoudis provided care and treatment to Mr.
5 Bental?

6 MR. HERSKOWITZ: Objection, leading and
7 asked and answered.

8 A I see no evidence that that was the case.

9 Q Today is not the first time that you've
10 been asked to serve as an expert witness?

11 A No.

12 Q Given your experience outlined in your
13 extensive curriculum vitae, it does not surprise you
14 that you were asked to testify in a medical malpractice
15 case such as this one, does it?

16 MR. HERSKOWITZ: Objection.

17 A No.

18 MR. HERSKOWITZ: It calls for speculation,
19 leading.

20 A I have been asked before, but that's the
21 first time that the case goes to trial in my experience.
22 I don't do this very frequently and much less frequently
23 now that I'm less involved with patient care directly.
24 It's just a matter of time. I don't have time to do it.

25 MR. MITTELMARK: Well, I thank you for your

0051

1 time this morning, Dr. Lima. I have no further
2 questions at this time.

3 THE WITNESS: Thank you very much.

4 THE VIDEOGRAPHER: We're going to turn the
5 video off at this time.

6 (A break was taken.)

7 THE VIDEOGRAPHER: The video is back on.

8 EXAMINATION BY MR. HERSKOWITZ:

9 Q Doctor, good morning. My name is Jon
10 Herskowitz. I represent Monique Bental, the widow of
11 Elie Bental in this matter. We've met on one prior
12 occasion at your deposition.

13 A Good morning.

14 Q During the course of your years of practice
15 you have acted as an attending or covering physician?

16 A Yes.

17 Q I think you said now you do it
18 approximately one month a year?

19 A Yes.

20 Q As a covering or attending physician you
21 are responsible for the patient's care?

22 A Yes.

23 Q You have the ability to order tests?

24 A Yes.

25 Q You have the ability to change medications

0052

1 or order fluids?

2 A Yes.

3 Q And essentially do what is necessary to
4 care for the patient?

5 A Correct.

6 Q The defendant, Dr. Zacharoudis, was
7 responsible for Elie Bental's care beginning on Friday
8 afternoon, September 8th, 2000.

9 A Right.

10 Q And Elie had coronary artery bypass surgery
11 that morning of September 8th, 2000.

12 A Okay.

13 Q Is that what you understand?

14 A That's what I understand.

15 Q And Dr. Zacharoudis remained responsible
16 for Elie's care until September 11th in the morning in
17 your opinion?

18 A That's what I understand.

19 Q Is that your opinion?

20 A Yes.

21 Q That he remained responsible for Elie's
22 care until September 11th in the morning?

23 A Yes.

24 Q We know that the defendant, Dr.
25 Zacharoudis, was caring for Elie on September 8th?

0053

1 A Yes.

2 Q September 9th, correct?

3 A Correct.

4 Q September 10th?

5 A Yes.

6 Q And until and into the morning of
7 September 11th, the fateful day?

8 A Right.

9 Q Now September 11th, 2000 was the day that
10 Elie suffered a cardiac arrest?

11 A Yes.

12 Q And he suffered this cardiac arrest on
13 September 11th, 2000 as a result of the blood that
14 accumulated around his heart?

15 A That seems to be the best explanation for
16 that at this point.

17 Q And the same day, September 11th, 2000,
18 because of the cardiac arrest his brain was deprived of
19 oxygen?

20 A Right.

21 Q And that's the same day that because his
22 brain was deprived of oxygen he suffered brain damage?

23 A That's what I understand.

24 Q Brain damage that was irreversible?

25 A That's what I understand.

0054

1 Q And the same day as a result of the
2 irreversible brain damage he went into a coma or became
3 nonresponsive?

4 A Unfortunately, that is what appears to have
5 happened.

6 Q I guess unresponsive is the medical way
7 it's described?

8 A Yes, in a coma, yeah.

9 Q And on that tragic day, September 11th,
10 2000, after he suffered cardiac arrest of the blood that
11 accumulated around his heart and irreversible brain

12 damage he would no longer be able to see Monique, his
13 wife of 47 years; is that correct?

14 A That's correct.

15 Q He would no longer be able to rub her back
16 or feel or touch?

17 A That's correct.

18 Q He would no longer be able to enjoy, speak
19 with or see his three children and his grandchild, Elon?

20 A That's correct.

21 MR. MITTELMARK: I'm going to object to
22 this line of questioning. It's outside the scope of
23 direct examination, and it's clearly appealing to the
24 sympathies of the jury.

25 Q Elie would no longer be able to enjoy walks
0055

1 on the beach holding Monique's hand?

2 A That's correct.

3 Q He would no longer be able to enjoy his
4 Turkish coffee in the morning?

5 A That is correct.

6 Q He would no longer be able to enjoy his
7 garden growing flowers for his wife; is that correct?

8 A That is correct. That's a tragic --
9 nothing short of tragic.

10 Q After September 11th, 2000 he would never
11 wake up?

12 A That's correct.

13 Q Never leave the hospital?

14 A That's correct.

15 Q On September 11th, 2000, the day Dr.
16 Zacharoudis was responsible for Elie's care, Elie was
17 lost to the people he loved?

18 A That's correct.

19 Q Doctor, if I may, I'm going to show you a
20 demonstrative aid. I would like you to just take a look
21 at it for one moment and then I am going to ask you some
22 questions.

23 A Please.

24 Q Doctor, this is a demonstrative aid called
25 the chain of events and you've had a chance to look at
0056

1 this?

2 A Yes.

3 Q On September 11th, 2000 we know that Elie
4 Bental was bleeding?

5 A Right.

6 Q We know that he was bleeding while
7 receiving the medication heparin?

8 A That's what it appears to be.

9 Q And that medication heparin was started by
10 the defendant, Dr. Zacharoudis?

11 A That's correct.

12 Q And we know that heparin caused him to
13 bleed more?

14 A We think that that is the case.

15 Q And we also think or believe that heparin
16 caused him to bleed faster?

17 A We believe that that's the case as well.

18 Q And that bleeding filled the area around
19 Elie's heart?

20 A Correct.

21 Q And that bleeding filled in the area around
22 Elie's heart is called pericardial effusion?

23 A Yes.

24 Q And that bleeding that filled the area
25 around Elie's heart caused pressure on the heart?

0057

1 A That's correct.

2 Q And I think you testified earlier that when
3 fluid or blood fills the area around the heart to a
4 certain point it causes pressure on the heart?

5 A Right.

6 Q And when the pressure is too great for the
7 heart to continue pumping blood --

8 A Right.

9 Q -- it causes an event?

10 A It can cause an event.

11 Q And that event when too much fluid or blood
12 accumulates around the heart preventing it to pump blood
13 is called cardiac tamponade?

14 A That's correct.

15 Q So the event is called cardiac tamponade?

16 A That's correct.

17 Q But what leads to the cardiac tamponade
18 such as in Elie's case was the bleeding with heparin
19 into the area around Elie's heart which is called
20 pericardial effusion?

21 A Right.

22 Q And then the event cardiac tamponade?

23 A But it's important to note is that bleeding
24 can occur without heparin in post op cases, right, and
25 so that you can have the same sequence of events without

0058

1 heparin.

2 Q Well, let's just be clear. We're not
3 alleging that heparin caused the bleeding.

4 A Right.

5 Q We're just agreeing that it caused him to
6 bleed more and faster?

7 A Exactly, it could have facilitated the
8 bleed.

9 Q Facilitated the bleed into the area around
10 his heart causing the event cardiac tamponade?

11 A Well, yes. Again, I didn't see -- we think
12 that that was the mode of the cardiac arrest. I didn't
13 really -- I don't have evidence that this is the case
14 but that would be the first hypothesis that I would
15 list, my differential list.

16 Q You don't have any evidence to the contrary
17 that these are the events as they are articulated in the
18 medical records?

19 A That is correct, you're a hundred percent
20 right.

21 Q And that this cardiac tamponade caused the
22 cardiac arrest; is that correct?

23 A Right, yes, that is my leading hypothesis.

24 Q And the cardiac arrest is when the heart
25 stops beating?

0059

1 A That's correct.

2 Q And then the cardiac tamponade and the
3 cardiac arrest eventually led to Elie's death?

4 A I think so.

5 Q No reason to dispute that?

6 A No, I don't think -- I don't think --

7 again, that is my first hypothesis. I didn't look with
8 all the details of trying to sort out exactly what led
9 to the arrest because I was not asked to do so. So I
10 can't say that I investigated that link there with as
11 much detail as I did the rest. So but from everything I
12 read that would be my leading hypothesis to explain the
13 whole thing.

14 Q Let me follow up on what you just said.
15 You were not asked to determine what the cause of Elie's
16 coma and ultimate death was?

17 A I was not asked to determine in detail what
18 happened that led to his death.

19 Q Well, from your review of the records on
20 this chart you have no reason to dispute that the
21 cardiac tamponade led to a cardiac arrest and eventually
22 to Elie's death?

23 MR. MITTELMARK: Objection, asked and
24 answered.

25 A I have no reason to dispute that.

0060

1 Q And no evidence to the contrary?

2 MR. MITTELMARK: Objection, asked and
3 answered.

4 A I have no evidence of the contrary, yeah.

5 Q Now, we know or are you aware that when Dr.
6 Bott, Elie's surgeon, came to Elie's bedside, he
7 eventually opened up Elie's chest attempting to save
8 him?

9 A Right.

10 Q And we know what he found was several
11 hundred CC's of clotted blood behind Elie's heart.

12 A That's correct.

13 Q And that's a large amount of blood?

14 A Yes, it is. But, again, you brought up a
15 good point. The question is sometimes it's hard to rule
16 out the possibility that the attempt to evacuate blood
17 and therefore that led to the ultimate, I mean somebody
18 could walk in here and make that point and I would not
19 have enough evidence to tell him look, you're wrong. I
20 mean because there was an intervention, so every time
21 there is an intervention, the cause and intervention
22 become like difficult to sort out.

23 Q What we can agree on is that when Dr. Bott
24 opened Elie's chest at the bedside there was a large
25 amount of blood?

0061

1 A I believe it, yeah. That part, as I said,
2 I think that's what caused, I just can't prove it.

3 Q And you would agree that that blood had
4 been there over time?

5 A I think that is the case. It's hard to
6 know -- well, we know from the echocardiogram that there
7 was some fluid in the pericardial space that morning.
8 So we don't know from the echocardiogram if that was
9 blood or what exactly it was, but I think that is
10 reasonable to assume that some of it was there for some
11 time. We have some fluid in our pericardial space
12 normally so you have to stop -- to start from that, from

13 that knowledge that even normally you have -- you know,
14 you can have up to 50 ML of blood in the heart -- in the
15 pericardial space already. Go ahead.

16 Q So your answer is yes, it had been there
17 for some time?

18 A Yes, I don't know how much had been there
19 for how long a period of time. I can't say that.

20 Q Now, there's always a concern for bleeding
21 after major surgery?

22 A Yes.

23 Q And coronary artery bypass surgery is major
24 surgery?

25 A Right.

0062

1 Q Now, if the bleeding into the area around
2 Elie's heart would have been diagnosed early enough it
3 would have prevented the event called cardiac tamponade?

4 MR. MITTELMARK: Objection. Outside the
5 scope of direct examination.

6 Q Is that correct? Let me ask it again
7 because of the objection.

8 A Yeah, please.

9 MR. HERSKOWITZ: Mike, your objection is
10 still maintained. You just interrupted in the middle of
11 the question, so let me ask the question again.

12 A Please.

13 Q If the bleeding into the area around Elie's
14 heart would have been diagnosed early enough it would
15 have prevented the event called cardiac tamponade?

16 A Yeah, the answer to that has to be
17 qualified because cardiac tamponade can occur very fast,
18 so it's not something that gradually develops. In some
19 cases it is, but in most cases it's actually something
20 that after a certain amount of fluid is in the
21 pericardium if you add a little more then you can have
22 cardiac tamponade. So when did that curve become steep,
23 that we don't know. So how early it could have been
24 detected to prevent, that's the question that I'm asking
25 myself, and the answer is that I don't know how early it

0063

1 would have to be diagnosed to prevent it.

2 Q Well, I think you misinterpreted my
3 question, and let me go ahead and ask it again before I
4 show you that your deposition will reflect your
5 recollection. When there is bleeding after major
6 surgery the first step is we hope we're going to detect
7 bleeding?

8 A Right.

9 Q And we know Elie was bleeding, correct?

10 A Correct.

11 Q Bleeding into the area around his heart?

12 A Right.

13 Q And had this bleeding into the area around
14 his heart been detected early enough it would have
15 prevented his tamponade; is that correct?

16 A Let me answer by saying -- let's say he was
17 operated that morning. With the amount of effusion that
18 I saw in the echocardiogram he could have been operated,
19 that fluid could have been evacuated and he could still
20 go into tamponade at 5 p.m. That's the point that I'm
21 making is that we don't know how early he would have to

22 be operated to have prevented that. Unfortunately,
23 that's the dynamics of tamponade.

24 Q Doctor, with all due respect, I don't feel
25 that you're answering my question --

0064

1 A Yeah.

2 Q -- so I'm going to show you your deposition
3 from April 26th, 2005 that was taken here in this same
4 office.

5 A Yep, please.

6 Q And it was taken with a court reporter from
7 the same court reporting agency, correct; do you
8 remember that?

9 A Yes, I remember that.

10 Q You raised your hand, swore to tell the
11 truth?

12 A Yes.

13 Q And Doctor, you knew the questions that
14 were being asked of you by me at that time were very
15 important to this case?

16 A Please.

17 Q And that your answers, the importance of
18 your answers to be very clear were also very important
19 to this case?

20 A You bet.

21 Q Well, Doctor, I'd like to show you and I'd
22 like you to read to yourself, if you don't mind,
23 beginning on page 83, lines 13 through 21, and then your
24 answer on page 84, lines 18 and continuing onto page 85
25 to line 4. If you'd please read those to yourself.

0065

1 A These here?

2 Q Yes, what essentially is highlighted.

3 A Well, Doctor --

4 Q No, I want you to read it to yourself if
5 you don't mind.

6 A Oh. Yeah, I'm very happy to say that I'm
7 saying the same thing that I -- yes.

8 Q If I may, Doctor, the question that I asked
9 of you on page 83, line 18, line 19 at the time was and
10 had that bleeding been detected early enough for Elie
11 Bental it would have prevented his tamponade; is that
12 correct? And your answer since you've had a chance to
13 review it is yes, I think the question, you know, if the
14 bleed could be prevented would tamponade be I think yes,
15 the answer to -- the short answer to this question is
16 yes.

17 A Yes, and it still is.

18 Q And Doctor, had the bleeding -- and to
19 follow up with that answer, had the bleeding been
20 detected or diagnosed early enough it would have
21 prevented the ultimate cardiac arrest and coma and
22 eventually his death?

23 MR. MITTELMARK: Hold on. Objection.
24 Outside the scope of direct examination.

25 A So the answer to that is yes. The point I

0066

1 was trying to make is that I don't know how early that
2 would have to be done to prevent this episode of
3 tamponade and it's consistent to what I answered the
4 last time, you know.

5 Q And Doctor, in following, if the bleeding
6 was stopped it would have prevented the cardiac
7 tamponade and cardiac arrest?

8 A Altogether.

9 Q We agree on that?

10 A Yes.

11 Q Now for a person of Elie's age you would
12 agree that his heart had pretty good function?

13 A At baseline I imagine that it would. At
14 that point his function, as I said, was moderately
15 impaired by the time from that echocardiogram, but I
16 imagine that some of the dysfunction was due to the
17 surgery itself. So taking the surgery away I would
18 imagine that his function was much better than that but
19 I can't say that his function is normal by any stretch.
20 I mean, as I mentioned before, I would have guessed that
21 his ejection fraction was between 30 and 45, so he had
22 moderate LV dysfunction from that echo.

23 Q So you would agree, so I understand, that
24 his heart for a person of his age had pretty good
25 function?

0067

1 MR. MITTELMARK: Objection. Asked and
2 answered.

3 A Yes, the question is what you call pretty
4 good. I think, you know, I agree with calling
5 35 percent pretty good, yes.

6 Q And after bypass surgery that should or
7 would improve the blood flow to his heart?

8 A That's correct. So the assumption here is
9 that if he has survived the bypass surgery that his LV
10 function would actually not be as depressed as I saw on
11 the echocardiogram. That would come back to a better
12 level.

13 Q Now, had Elie not suffered the bleeding
14 into his heart and resulting cardiac tamponade that
15 ultimately led to the arrest and his death, his life
16 expectancy would have been good?

17 MR. MITTELMARK: Objection, outside the
18 scope of direct examination.

19 A That is hard to say because somebody had a
20 bypass, the prognosis of somebody who has gone over that
21 is already -- is already compromised but I would imagine
22 that because bypass surgery tends to be an operation
23 that is effective that his prognosis would be
24 reasonable.

25 Q Life expectancy would have been good?

0068

1 MR. MITTELMARK: Objection. Outside the
2 scope of direct.

3 A Again, it depends on what you call good. I
4 wouldn't say normal but I would say that it would be
5 good.

6 Q I don't want to -- and I think you answered
7 my question, and I don't want to put words in your
8 mouth, but I'm going to show you page 75, lines 14 and
9 17, from the same deposition.

10 A Yes.

11 Q And ask you to read those to yourself.

12 A Yes. The one --

13 Q Let me ask my question. And to use your

14 words, when I asked about Elie's left expectancy had he
15 not suffered these events on 9/11 after successful
16 bypass surgery, your answer was I think it would have
17 been good; is that correct?

18 MR. MITTELMARK: Objection. Improper
19 impeachment.

20 A Yes, I think I also qualified to say that
21 it's not as rosy as it would be, you know, expect of
22 somebody who didn't have bypass surgery. And there is
23 also the fact that I -- at that point I have to say that
24 I thought his ejection fraction was actually a little
25 better than as I examined the echo again to be truthful.

0069

1 But the general, the bottom line to your question is
2 that yes, I think the prognosis would be good if he had
3 survived this bypass surgery.

4 Q If he survived the bleeding and the
5 effusion and tamponade?

6 MR. MITTELMARK: Objection.

7 A Exactly, this whole episode.

8 Q And 10 days later after 9/11 are you aware
9 that is when Elie finally passed away?

10 A Yes.

11 Q Your employer is John Hopkins University
12 here in Baltimore, Maryland?

13 A Yes.

14 Q Not in Florida?

15 A No.

16 Q And you are a full-time salaried employee
17 of the University?

18 A Yes.

19 Q You're not here in this case providing
20 testimony for Michael Mittelmark on behalf of the
21 University?

22 A No.

23 Q And you have been paid money to provide
24 opinions on behalf of the defendant, Dr. Zacharoudis?

25 A That's correct.

0070

1 Q The money that you have been paid goes into
2 your pocket?

3 A Yes.

4 Q It's personal income?

5 A Personal income.

6 Q No money to the University?

7 A No.

8 Q Now, you testified earlier about records
9 you reviewed and you made comment of a deposition of Dr.
10 Meyer Cohen?

11 A Yes.

12 Q Are you sure you reviewed Dr. Meyer Cohen's
13 deposition?

14 A I am not 100 percent sure. I think I did
15 at that time when you first interviewed me, but I am not
16 sure. I am not sure. That's it.

17 Q You were never provided records for
18 purposes of making a diagnosis of Elie Bental?

19 A No, never.

20 Q And you were never contacted by any of the
21 defendants to assist in the diagnosis of Elie Bental?

22 A Not at all.

23 Q You never treated Elie Bental?
24 A No, my focus here was very narrow, it was
25 just on what the performance of Dr. Zacharoudis.

0071

1 Q And you were hired and paid for by the law
2 firm for defendant Dr. Zacharoudis to provide opinions?

3 A That's correct.

4 Q And you've been involved in providing
5 opinions in matters such as this since the mid 1990's?

6 A That's correct.

7 Q And only on behalf of defendants?

8 A Only.

9 Q Never on behalf of the injured party?

10 A Not that I can remember of. I'm pretty
11 sure that I've never been on the -- that I've been
12 always on the side of the defendant.

13 Q You've been retained by the same law firm
14 that represents the defendant on another case that is
15 currently active?

16 A I believe so.

17 Q Well, if I were to tell you that your
18 previous testimony indicates that you were working with
19 a woman, one of Mr. Mittelmark's partners, Rosemary
20 Antonacci?

21 A Yes, I did.

22 Q So the answer is you have done other cases
23 for this firm?

24 A Yes, but this has been two years and I
25 haven't done any other cases in the meantime, so I don't

0072

1 know anymore what's active and what's inactive, you
2 know.

3 Q I understand.

4 A That's the only qualifier. I mean that's
5 why I'm sort of unclear. I don't want to say something
6 that is not precise.

7 Q You are aware that the defendants, Dr.
8 Zacharoudis and Dr. Bartzokis, see and treat patients in
9 a private practice setting?

10 A That's correct.

11 Q And seeing and treating private patients is
12 the primary focus of their practice?

13 A Yes.

14 Q Are you aware that the expert for the
15 plaintiff, Dr. Joshua Furman, sees and treats private
16 patients as a primary focus of his practice?

17 MR. MITTELMARK: Objection, relevance.

18 A For the plaintiff? Yes. I wasn't aware
19 but I had assumed that.

20 Q And when defendant Dr. Zacharoudis and
21 Bartzokis see patients they are the physician
22 responsible or the attending physician for that patient?

23 A Yes.

24 Q And the same would be true for Dr. Joshua
25 Furman if that's the primary focus of his practice?

0073

1 MR. MITTELMARK: Objection, relevance.

2 A That's correct.

3 Q I think you had indicated earlier that when
4 you came to Johns Hopkins in 1980 your focus was on
5 research?

6 A That's correct.

7 Q And you had a three-year period which as a
8 fellowship which you again focused on research?

9 A That's correct.

10 Q Now, isn't it true, Doctor, you've never
11 been involved in a private practice such as that of the
12 defendants or plaintiff's expert, Dr. Joshua Furman?

13 A That is not in the U.S. I have not and
14 actually even outside the U.S. I was never involved in a
15 private practice.

16 Q And the closest you came to having a
17 similar practice as the defendants and Dr. Furman was in
18 1992 at the University when you were involved in a
19 three-day outpatient clinic?

20 A Yes, so that, you know, was pretty similar
21 in the sense that it's a practice, but instead of being
22 a group, an independent group, it's a group under the
23 umbrella of Johns Hopkins Hospital.

24 Q And that was approximately 14, 15 years
25 ago?

0074

1 A Well, I kept a clinic until a few years
2 ago, until two or three, three or four years ago.

3 Q And it became too much and you needed to
4 devote the majority of your time to administration and
5 research?

6 A That's correct.

7 Q And when you treated patients in this
8 clinical setting that reflected only about one-third of
9 your professional time?

10 A No, you know, in the beginning of the 90's
11 it actually reflected more of my time and then it
12 evolved to be a third, and now it's even less than that.

13 Q And when you did this clinical practice
14 where it was a percentage of your time this was over the
15 course of only one to two months a year?

16 A Well, no, when I used to have a clinic, I
17 used to have a clinic and see patients every week, like
18 three times a week, and then two times a week, and then
19 once a week. That went on for years.

20 Q Doctor, if I may show you the same
21 deposition, I'm referring to page 27, lines 4 to 12. If
22 you could please read those to yourself.

23 A Yes.

24 Q Does that give you -- has that refreshed
25 your recollection?

0075

1 A That's exactly what I was trying to say
2 but --

3 Q Instead of belaboring the point, we can
4 agree that throughout your career the majority of your
5 time has been in a University setting doing mostly
6 research and administration?

7 A No, I think that's not -- that's not
8 accurate. So from 1990 to, let's say, 2001 or 2002, I
9 had at least a 50 percent involvement in patient care.
10 It was either reading studies or taking care of patients
11 or being an attending. And then in the last four years
12 this has decreased progressively. That is now I'd say
13 it's even more than when I gave that deposition. I said
14 30 percent, now I would say that it's more like

15 15 percent.

16 Q Well, let's talk about for a minute your
17 position here at the University. You are an Associate
18 Professor?

19 A I am an Associate Professor.

20 Q And there are three ranks of faculty at a
21 University, assistant, associate and full professor?

22 A That's correct.

23 Q And full professor is the highest position?

24 A That's correct.

25 Q And you've been an associate professor

0076

1 since 1997?

2 A That's correct.

3 Q And you have not become a full professor?

4 A That's correct.

5 Q You described in your direct examination
6 that you were currently the director of -- you're an
7 Associate Professor of Medicine and Radiology?

8 A Yes.

9 Q That's different than cardiology?

10 A Medicine and radiology, yes.

11 Q And you're the Director of the Cardio

12 Imaging?

13 A Cardiovascular Imaging, that's correct.

14 Q Is there a different department which

15 treats patients clinically?

16 A No, medicine is the department that treats
17 patients clinically. So I'm Associate Professor of
18 Medicine. That's where my primary appointment is.

19 Q Now, you have called your subspecialty in
20 cardiac imaging but you've not received any additional
21 education or training in that area other than what is
22 the experience on the job?

23 A That's correct.

24 Q Now, there is a test or a proficiency exam
25 for echocardiography that has emerged in the last four

0077

1 or five years; is that correct?

2 A That's correct.

3 Q And you've never taken that exam?

4 A I never took that exam.

5 Q And that's a nationally recognized exam?

6 A It is. It's a nationally recognized exam.

7 Q So you have received no additional training
8 or education in the area of echocardiography than any
9 other expert who spent many years reading and
10 interpreting those films?

11 A That's correct. At the time that the test
12 was organized I was the director of the echo lab here.
13 We actually made questions for the test, so we were sort
14 of grandfathered in. Rightfully or not, that's what
15 happened.

16 Q Well, let's get back to why we're here and
17 that's Elie Bental. Elie Bental had bypass surgery on
18 September 8th, 2000; is that correct?

19 A That's correct.

20 Q And it's major surgery and with any major
21 surgery there's always a risk of bleeding?

22 A Right.

23 Q And when you use heparin after such a

24 surgery you should always consider it could cause
25 internal bleeding?

0078

1 A That's correct.

2 Q Now, we've heard the term used in your
3 direct examination differential diagnosis. By
4 differential diagnosis we mean the method doctors use to
5 identify the condition causing the patient's problems?

6 A Right.

7 Q And before a medical condition, would you
8 agree with this, before a medical condition can be
9 treated it must be identified?

10 A Right.

11 Q With no diagnosis there can be no
12 meaningful treatment?

13 A That's correct.

14 Q And you do this by observing a patient?

15 A That's correct.

16 Q Getting a history?

17 A Yes.

18 Q Examining the patient?

19 A Exactly.

20 Q And after that you form a list of the most
21 likely causes?

22 A That's correct.

23 Q And the idea from this list or this
24 differential diagnosis is to eliminate the possible
25 causes?

0079

1 A It's to put them in an order of priority
2 and eliminate the ones you can and address the ones you
3 can't eliminate in some fashion.

4 Q In essence then, once a diagnosis is
5 reached you treat?

6 A That's what -- if treatment is available
7 that's exactly the sequence of desired events.

8 Q The sequence is diagnose it and then
9 provide meaningful treatment?

10 A Right.

11 Q And bleeding should always be part of any
12 type of differential diagnosis or list in a post bypass
13 patient like Elie Bental?

14 MR. MITTELMARK: Objection, asked and
15 answered.

16 Q Is that correct?

17 A Yes, that's correct.

18 Q And that is what reasonable and prudent
19 doctors should consider in a post bypass patient?

20 A Yes.

21 Q Bleeding should always be suspected in a
22 post bypass patient who has very low blood pressure or
23 is hypotensive?

24 A Right.

25 Q Going back to September 9th, the day after

0080

1 Elie had bypass surgery, take a look at Dr.
2 Zacharoudis's progress note. Are you aware that Elie's
3 heart rate on Saturday, the day after bypass surgery,
4 was around 79 to 82?

5 A Yes. May I ask you one thing? Due to
6 HIPAA regulations maybe we should empty the room.

7 Q It's not a concern.
8 A Okay, very good.
9 Q But, thank you. Just going back here, on
10 September 9th, 2000 you would agree that the day after
11 Elie had his bypass surgery his heart rate was around 79
12 to 82?
13 A Very good.
14 Q And that heart rate is very good a day
15 after bypass surgery?
16 A Yes.
17 Q And his H&H as was described in direct
18 examination, his hematocrit and hemoglobin, or his blood
19 values, were 37.4 over 12.4?
20 A Okay.
21 Q You're aware of that?
22 A Yes.
23 Q And this is a blood test that evaluates
24 Elie Bental's blood levels?
25 A Right.

0081

1 Q And the 12.4 value reflects the hemoglobin?
2 A Right.
3 Q And the hemoglobin is an indication --
4 well, let me back up a minute. An indication in
5 bleeding, when a patient is bleeding, generally can be
6 seen by how much the hemoglobin drops?
7 A Right.
8 Q And Elie's blood levels or H&H were pretty
9 good on September 9th?
10 A Right.
11 Q Now, the H&H or the hemoglobin or the blood
12 levels are expected to drop after major surgery because
13 you receive a lot of fluids?
14 A Correct.
15 Q Now, during your direct examination, Dr.
16 Zacharoudis's September 10th progress note was
17 discussed. Do you remember that?
18 A Yes.
19 Q September 10th is Sunday, two days after
20 bypass surgery?
21 A Correct.
22 Q And two days after bypass surgery Elie's
23 heart rate was 106?
24 A Okay.
25 Q Pretty good?

0082

1 A Yes.
2 Q His blood pressure was 115 over 70, normal,
3 correct?
4 A Right.
5 Q And during the time he had this good heart
6 rate and normal blood pressure he was actually in atrial
7 fibrillation?
8 A That's correct.
9 Q So he had these normal vital signs while in
10 paroxysmal a-fib?
11 A Right.
12 Q He had no signs of heart failure on Sunday?
13 A Right.
14 Q No chest pain?
15 A Correct.

16 Q His hemoglobin or his blood value was 12.0?
17 A That's correct.
18 Q That's still pretty good and similar to the
19 day before, Saturday the 10th?
20 A That's correct.
21 Q And when, again, and when we looked to
22 determine if a decrease in Elie's blood level, we looked
23 at the hemoglobin or the 12.0 reading?
24 A That's correct.
25 Q And are you aware that this value, these
0083

1 lab values, were taken around 6 to 7 p.m. on Sunday the
2 10th?
3 A I am.
4 Q September 11th?
5 A Yes.
6 Q The fateful day, Dr. Zacharoudis was called
7 at 5 a.m.?
8 A Yes.
9 Q And he was contacted on the telephone?
10 A Right.
11 Q By the nurses that were caring for Elie?
12 A Correct.
13 Q The nurses told Dr. Zacharoudis that Elie's
14 blood pressure was down to 72 over 44?
15 A Correct.
16 Q This is clearly low or hypotensive, not
17 just a little bit?
18 A That's correct.
19 Q And Elie was complaining of not feeling
20 well?
21 A Correct.
22 Q And these are some of the things that were
23 not mentioned on direct, but his color was also pale?
24 A Right.
25 Q He had chest discomfort?
0084

1 A Yes.
2 Q His blood values or his H&H, specifically
3 his hemoglobin had dropped over two grams from 6 p.m.
4 the night before to 29 over 9.9?
5 A Yes.
6 Q This is a two gram drop in less than
7 12 hours?
8 A Right.
9 Q And his heart rate was up to 147?
10 A Yes.
11 Q Now, we can agree that Elie was sick at
12 5 a.m. on 9/11?
13 A Definitely.
14 Q Something was wrong?
15 A Yes.
16 Q And you testified in direct that a normal
17 hemoglobin would be around 15?
18 A Yes.
19 Q And this drop from two grams from the night
20 before down to 9.9 should have entered the equation?
21 A Yes.
22 Q Meaning it should have been part of the
23 differential diagnosis, the list?
24 A Yes.

25 Q You would agree that when a person is

0085

1 actively bleeding you may see a drop in the hemoglobin?

2 A Yes.

3 Q And if you are concerned that this drop in
4 the hemoglobin is a lab variation you can order another
5 blood test?

6 A Yes.

7 Q Also, if you order another blood test and
8 it has decreased even further there would be more
9 concern of active bleeding?

10 A Yes.

11 Q There was never any document or any issue
12 that this value of 9.9, the two gram drop from the night
13 before, was a lab variation; is that correct?

14 A That's correct.

15 Q Dr. Zacharoudis never ordered another blood
16 test?

17 A I'm not sure that he even by 5 a.m. if he
18 was aware of that lab test already or not. This is
19 something that actually I looked in the record. In
20 other words, I don't know when Dr. Zacharoudis perceived
21 the fact that the hemoglobin had dropped two points.
22 Not that that makes such a crucial difference, but
23 that's -- if we are making the point that oh well, we
24 should have ordered -- he should have ordered another
25 one, you know, the question is when that should have

0086

1 happened.

2 THE VIDEOGRAPHER: We're running out of
3 tapes so we're going to turn the video off and change
4 tapes at this time.

5 THE WITNESS: Okay.

6 (A break was taken.)

7 THE VIDEOGRAPHER: This marks the beginning
8 of tape number 2, the video is back on.

9 Q Doctor, where we left off, if a list or
10 differential diagnosis was formed which, as we agree,
11 should include bleeding, you, as the reasonable and
12 prudent physician, will look to see what the H&H or
13 blood levels are; is that correct?

14 A Yes, that's correct.

15 Q So we can assume if Dr. Zacharoudis had a
16 differential or a list which included bleeding he would
17 have been aware or should have been aware of what the
18 blood levels were?

19 MR. MITTELMARK: Objection, argumentative.

20 Q Correct?

21 A Correct.

22 MR. MITTELMARK: It calls for speculation
23 too.

24 Q Now, Doctor, we can agree that someone who
25 has a blood pressure as low as 72 over 44 it is a sign

0087

1 or symptom of active bleeding?

2 A It could be. He also had a heart rate of
3 147 which could indicate that the low blood pressure
4 could be due to atrial fibrillation.

5 Q Bleeding is a consideration?

6 A Definitely.

7 Q And when their color is pale it is a sign

8 or symptom of active bleeding?

9 A Yes, that is also.

10 Q And when they have an increased heart rate
11 with a low blood pressure could also be a sign or
12 symptom of active bleeding?

13 A Yes, it could.

14 Q And the increase in heart rate and
15 reduction of blood pressure is the response the body
16 takes to active bleeding?

17 A Yes. It's also the response it could -- in
18 other words, all of these signs and symptoms could be
19 attributed to atrial fibrillation with a fast heart rate
20 unfortunately.

21 Q And the two gram drop in blood from the
22 evening before, can that be caused by atrial
23 fibrillation?

24 A No, that could not be assigned to atrial
25 fibrillation. Again, that can be the result of a lot of
0088

1 things. It doesn't necessarily mean bleeding but it
2 can't be assigned to atrial fibrillation.

3 Q And you would agree that active bleeding
4 should have been part of the list or differential
5 diagnosis for Elie's problems beginning at 5 a.m. on
6 September 11th?

7 A Yes, and I think it was.

8 Q And with a two gram drop in hemoglobin from
9 6 p.m. the day before you would certainly consider
10 active bleeding?

11 A Yes, and again, I think because they
12 ordered the echocardiogram it leads me to believe that
13 that was their second -- their second item in the list.

14 Q Now, this list, this differential
15 diagnosis, oftentimes you as a -- when you were or do
16 practice as a clinical physician and you write in the
17 records your concerns or your list or your differential
18 diagnosis, this is something you articulate in the
19 record; is that correct, such as rule out active
20 bleeding, rule out atrial fibrillation?

21 A It can or it may not. I mean -- there is a
22 lot of research on this. Actually, the differential
23 diagnosis start when you start first hearing about a
24 case but that's an academic point that -- so yeah,
25 sometimes the differential diagnosis is articulated on
0089

1 the record but it's all the time the physician's mind.

2 Q It should be in the physician's mind?

3 A Yes.

4 Q But you, Doctor, you write it in the
5 records, correct?

6 A I think it's good to write it in the
7 records as much as you can.

8 Q Especially because if you write out what
9 your differential diagnosis or list is, which is to
10 exclude problems and you sign out, the next physician
11 will know what you were thinking or what you were
12 attempting to rule out?

13 A That is correct, it's in general a very
14 good practice to do that.

15 Q Dr. Zacharoudis did not do it nor is it in
16 any record; is that correct?

17 A I didn't see in any records such a list.
18 You know, I assumed that in conversation because they do
19 say in the records that they did have a conversation
20 about passing the patient to each other that that was
21 formulated then, but I have no record of it.

22 Q You say you assume, the record of a
23 conversation is only from deposition testimony, correct?

24 A That's correct.

25 Q It's not in the records?

0090

1 A It's not in the records.

2 Q And there's no indication whatso --

3 A I didn't see it.

4 Q And there's no indication whatsoever,
5 except your assumption that Dr. Zacharoudis had a
6 differential diagnosis; is that correct?

7 A That's correct. The assumption that I made
8 about that relates to the action that was taken in
9 ordering. Somebody ordered a echocardiogram and I
10 assumed that that was the result of a differential
11 diagnosis, and because Dr. Zacharoudis took care of the
12 patient over the weekend I assumed that that input came
13 from him. It's all assumption as you said.

14 Q Well, we'll get to the echocardiogram but
15 let's go back to 5 a.m. on September 11th. After the
16 nurses contacted Dr. Zacharoudis and told him of Elie's
17 signs, did Dr. Zacharoudis come and do a physical exam?

18 A No.

19 Q In fact, all Dr. Zacharoudis did was place
20 a telephone order changing Elie's medication and giving
21 him some fluids?

22 A That's correct.

23 Q He was called again at 6 or 7 o'clock in
24 the morning by the nurses?

25 A Yes.

0091

1 Q Correct?

2 A Correct.

3 Q At 7 a.m. Elie's heart rate was still up in
4 the range of 140?

5 A Right.

6 Q And at that time, 6 a.m. or 7 a.m., did Dr.
7 Zacharoudis come in and perform a physical examination
8 of Elie?

9 A No, I don't have any evidence that that
10 happened.

11 Q And at 8 a.m., the third or fourth time the
12 nurses called Dr. Zacharoudis that morning, they told
13 him Elie was complaining of feeling very weak?

14 MR. MITTELMARK: Objection. It assumes
15 facts not in evidence.

16 Q Correct?

17 A That's correct.

18 Q Just so that we make sure that these are
19 facts in evidence, I am going to show you a blowup of
20 September 11th, 2000 of the nursing observations.

21 A Okay.

22 Q At 8 a.m. complains of feeling very weak,
23 correct?

24 A Correct.

25 Q Blood pressure 83 over 49?

0092

1 A Okay.

2 Q Up to 92 over 53?

3 A Um-hum.

4 Q Yes, do you see that?

5 A Yes.

6 Q Called Dr. Zacharoudis?

7 A Yes.

8 Q Then we'll talk about the administration of
9 heparin in a minute. But those were what the nurses
10 relayed to Dr. Zacharoudis at 8 a.m., correct?

11 A Correct.

12 Q At this time, again, active bleeding should
13 be part of that list or differential diagnosis?

14 A Yes, it should, although everything can be
15 explained by fast heart rate and atrial fibrillation.

16 Q And bleeding, whether it be into the heart
17 or some other internal space, needs to be a
18 consideration?

19 A Yes, definitely.

20 Q Now, Elie was placed on the medication
21 heparin the day before by the order of Dr. Zacharoudis?

22 A Correct.

23 Q And again, we know that heparin is a
24 medication to prevent blood clots by thinning the blood?

25 A Yes.

0093

1 Q And if Elie is actively bleeding the
2 administration of heparin could cause him to bleed more?

3 A That's correct.

4 Q And faster?

5 A That's correct.

6 Q And during the time that Dr. Zacharoudis
7 was responsible for Elie on the morning of 9/11 from
8 5 a.m. to approximately 8:39 a.m., there is nothing in
9 the records to show he even suspected bleeding?

10 A That's correct.

11 Q There's no register of any thinking of
12 bleeding whatsoever; is that correct?

13 A Well, the ordering, again, of the
14 echocardiogram indicates that he or Dr. Bartzokis were
15 exploring a different hypothesis than the atrial
16 fibrillation as an explanation for everything because
17 the echocardiogram would not have much use in relation
18 to the atrial fibrillation hypothesis. So to me that
19 indicates that there was consideration to a different
20 mechanism for the symptoms.

21 Q Let's just clear some things up. The
22 echocardiogram was ordered by Dr. Bartzokis?

23 A That's correct.

24 Q And again, this is assumption on your part?

25 A That's assumption on my part.

0094

1 Q And would you agree that there was no --
2 there was no register of anything whatsoever by Dr.
3 Zacharoudis of bleeding on that morning?

4 MR. MITTELMARK: Objection, asked and
5 answered.

6 A That's correct, there is no registration of
7 that.

8 Q Now, at 8 a.m. did Dr. Zacharoudis come in

9 and physically see or examine Elie?

10 A No.

11 Q Now, at 8:20 in the morning Dr. Zacharoudis
12 with all of the high blood pressure, the fast heart
13 rate, the two gram drop in blood --

14 A The low blood pressure.

15 Q Low blood pressure, I'm sorry.

16 A That's all right.

17 Q The low blood pressure, the fast heart
18 rate, the two gram drop in blood, the feeling very weak,
19 looking pale, Dr. Zacharoudis at 8:20 in the morning
20 orders an increase in the medication heparin?

21 A Right.

22 Q And in the 8 a.m. nurse's note it indicates
23 that the nurses following Dr. Zacharoudis's order
24 administered 2000 units of heparin?

25 A That's correct. That's what I understand

0095

1 was done.

2 Q And it would be fair to say, that now
3 looking back on what happened with Elie Bental, that
4 this increase of heparin increased the bleeding into the
5 area surrounding Elie's heart?

6 MR. MITTELMARK: Objection, argumentative.

7 A I think so. I think that might have done
8 that and because I believe that up to this point we have
9 no evidence that there was tamponade, the tamponade that
10 happened in the afternoon may be related to that action.

11 Q Dr. Zacharoudis never ordered a
12 echocardiogram on 9/11, correct?

13 A Not that -- I think Dr. Zacharoudis, as far
14 as I understand, read the echocardiogram but the
15 ordering came from Dr. Bartzokis.

16 Q Didn't order a CT scan of the chest?

17 A No.

18 Q He did no tests, ordered no tests to assess
19 whether Elie Bental was bleeding that morning?

20 A That's correct.

21 Q He didn't take any steps to assess whether
22 he was bleeding?

23 A That's correct. He was assuming that
24 everything was due to the atrial fibrillation?

25 Q And he never came, he did no physical exam,

0096

1 correct?

2 A Correct.

3 Q All he did that morning was from his
4 telephone was to change his medications and order
5 fluids?

6 A That's correct, and tried to reduce the
7 heart rate.

8 Q He never discontinued the heparin?

9 A No.

10 Q Never contacted a surgeon?

11 A No.

12 Q Never did anything to assess whether there
13 was an increase in pressure in Elie's heart?

14 A Well, oh, you mean --

15 Q Dr. Zacharoudis.

16 A If there was an increase in blood pressure?

17 Q Or pressure in the heart.

18 A If the patient -- no, there is no -- there
19 is no record that any tests were made to assess the
20 presence of tamponade at that point.

21 Q Now, sometime after 9 a.m. in some of the
22 deposition testimony Dr. Zacharoudis says that he
23 quote/unquote signed out; is that correct?

24 A That's correct, that's what I understand.

25 Q And this usually means that as a doctor you
0097

1 are passing the responsibility for the care of the
2 patient to another physician?

3 A Right.

4 Q And when you sign out on a patient you, Dr.
5 Lima, generally tell the patient?

6 A Yes.

7 Q And you indicate on the chart as well that
8 you are signing out responsibility to whatever doctor
9 will take over care at that time?

10 A I do.

11 Q There's no indication in the chart that Dr.
12 Zacharoudis either spoke to Elie Bental or signed out?

13 A Right, that's what I understand.

14 Q Now, the echocardiogram, Dr. Bartzokis
15 ordered this test; is that correct?

16 A Correct.

17 Q And he ordered this test to be read and
18 interpreted by the defendant, Dr. Zacharoudis?

19 A That's what I understand.

20 Q And this test was read by Dr. Zacharoudis?

21 A That's correct.

22 Q This test does not involve a physical exam?

23 A No, it does not.

24 Q And Dr. Zacharoudis read this test sometime
25 after he quote/unquote signed out?

0098

1 A That's correct, that's what I understand.

2 Q And it's clear that his interpretation of
3 this test would be relied upon by other doctors?

4 A Yes.

5 Q And although he has said or indicated he
6 was signed out, he is still responsible to read and
7 interpret this test correctly?

8 A That's correct.

9 Q And he's responsible to suggest that this
10 test be done again if it's not a good and clear test?

11 A Yes.

12 Q Now, this test was done on the morning
13 sometime before 12 noon on September 11th on Elie
14 Bental?

15 A Yeah, I'm not sure, you know, that he is
16 responsible for suggesting that the test should be
17 repeated if the technical -- if it was not technically
18 complete, you know. That, I am not sure of that step
19 because that can be seen sometimes as asking for
20 multiple tests, you know, so it's not something that
21 physicians are encouraged to do.

22 Q Well, if the test is very, very limited,
23 he's the only one who read it, he's the only one who can
24 say hey, this needs to be repeated?

25 A I agree with that.

0099

1 Q And this echocardiogram, this only
2 echocardiogram, was limited to a very few views and a
3 very short recording?

4 A Agree.

5 Q Generally the test is a good five minutes
6 of material that's recorded?

7 A Yes, in general it is so. But in patients
8 who are acutely ill they are generally much shorter.

9 Q Well, in the test on Elie read and
10 interpreted by doctor -- defendant Dr. Zacharoudis you
11 can only visualize the left ventricle of the heart for a
12 few seconds or a few beats?

13 A That's correct.

14 Q And the same for the right ventricle, a
15 couple of beats?

16 A That's correct.

17 Q You would agree that this echocardiogram
18 was very, very, very limited?

19 MR. MITTELMARK: Objection.

20 A I don't know how many very's I would put
21 but I would agree there was a very limited study.

22 Q Doctor, if I may, just to show you to
23 refresh your recollection, page 138 beginning on lines
24 15 through 17, if you could just read that to yourself.

25 A Yeah, I had three very's at that time.

0100

1 Q So you would agree it's very, very, very
2 limited?

3 A Yes.

4 Q I don't want to put words in your mouth.

5 A No, that's fine.

6 Q And after Dr. Zacharoudis -- let me take a
7 step back for a minute. And on this very, very, very
8 limited study you described as seeing a moderate to
9 medium amount of blood in the pericardial space?

10 A Yes.

11 Q The area around the heart?

12 A Right.

13 Q Now --

14 A A small to medium. I think that's what I
15 would assess it today, but I don't know if at that time
16 I thought it was medium more than small.

17 Q And you believe that Elie's ejection
18 fraction showed that Elie's heart was not working at the
19 level it should be at this time on this day?

20 A That's correct.

21 Q And this echo or this very, very, very
22 limited echo doesn't show both the front and back of the
23 heart?

24 A That's correct.

25 Q So if there was blood accumulating in other

0101

1 areas around the heart this echo would not show that?

2 A That's correct.

3 Q After Dr. Zacharoudis read this very, very,
4 very limited study neither him nor defendant Dr.

5 Bartzokis did any follow-up study or test?

6 A That's what I understand.

7 Q And after this triple very limited study
8 there was no follow up whatsoever of Elie such as a
9 physical exam or anything?

10 A Well, but that is not Dr. Zacharoudis'
11 fault because he had already passed the patient to the
12 -- you know, so in my interpretation once that echo was
13 obtained, you know, that it's really -- one can't really
14 blame Dr. Zacharoudis for not ordering more tests or not
15 performing exams.

16 Q My question is really there was no physical
17 exam or anything after this test for Elie Bental by
18 either defendant Dr. Zacharoudis or defendant Bartzokis?

19 A Well, that could be a good point. The
20 point that I'm making is that that cannot be blamed on
21 Dr. Zacharoudis.

22 Q My simple point is Elie was never seen by a
23 doctor after about 11:30 that morning; is that correct?
24 When -- or around 10 a.m. that morning when Bartzokis
25 ordered the echo, that was the last time any physician
0102

1 came to see him until 5 p.m. when Dr. Bott came; is that
2 correct?

3 A That's what the record indicates. I don't
4 have any record that somebody -- but again, I have not
5 really focused on what happened in the afternoon. I
6 have to -- so I wouldn't like to portray myself as
7 somebody who is giving opinions about what happened in
8 the afternoon because that's not what I focused on.

9 Q You did review those records though?

10 A I did review the records. I didn't see any
11 mention of somebody seeing the patient or I imagine that
12 somebody did but.

13 Q And you would agree that the treatment of
14 Elie's heart in the records that you reviewed falls
15 within your purview of cardiology?

16 A Oh, yeah, definitely. This is not an
17 uncommon case.

18 Q As though you may not have focused on those
19 records in the afternoon, you reviewed them and you
20 understand them and it falls within your expertise as
21 cardiologist?

22 A Entirely, entirely, yeah.

23 Q Now, there was some discussion in your
24 earlier testimony that the right side chamber was not
25 seen collapsing on the echo?

0103

1 A That's correct.

2 Q This does not exclude more significant
3 bleeding in the area around the heart, correct?

4 A That is correct.

5 Q So again, going back to where we discussed
6 at the beginning of this cross-examination, it was the
7 bleeding into the area around the heart that ultimately
8 led to the event cardiac tamponade?

9 MR. MITTELMARK: Objection, asked and
10 answered.

11 A Well, that's what we are assuming and
12 that's I think that would be my running hypothesis.

13 Q Now, Doctor, there's a test called a
14 transesophageal echocardiogram, a TEE, that would have
15 given us a more clear picture of the rear of the heart?

16 A Right.

17 Q And it would have given us a better picture
18 of the amount of blood filling the area around the

19 heart?

20 A That's correct.

21 Q And there were no contraindications for
22 either Dr. Zacharoudis or Dr. Bartzokis to have ordered
23 a TEE?

24 A That's correct.

25 Q And it would give us a clearer picture of
0104

1 the heart?

2 A Right.

3 Q Now, we can agree that on 9/11 Elie was
4 actively bleeding?

5 MR. MITTELMARK: Objection. It
6 mischaracterizes his prior testimony.

7 A Well, actively bleeding on 9/11, I think
8 so, I think I would -- I would -- that's such a strong
9 hypothesis that I would assume that. I don't know when
10 the bleeding started really, the significant bleeding
11 that led to tamponade started. You know, there isn't
12 any evidence that the bleeding started as early as
13 Monday morning, that the crucial bleed that led to
14 tamponade started at that time. If somebody walked in
15 here and said what is the evidence that the patient was
16 in tamponade at Monday morning I would be -- it would be
17 very hard for me to produce that evidence.

18 Q Well, let's go back and let's talk about
19 what we know. We can agree that at some point on 9/11
20 he was actively bleeding?

21 A Yes.

22 Q And he was actively bleeding into the area
23 surrounding the heart?

24 A We can assume that.

25 Q And we know that in the early morning hours
0105

1 of 9/11 he had signs and symptoms of actively bleeding?

2 A Well, signs and symptoms, that could be a
3 sign among other things to active bleeding but it could
4 also be a sign to atrial fibrillation.

5 Q And in hindsight can we agree that Elie at
6 some point on 9/11 was actively bleeding?

7 A Yes, in hindsight, but, you know, putting
8 ourselves in the position of Dr. Zacharoudis on the
9 morning of Monday, the world looks different.

10 Q Well, let's jump ahead now to 5 p.m. after
11 Elie has not seen a physician since about 10 a.m., Dr.
12 Bott comes to his bedside and eventually opens his
13 chest, correct?

14 A That's what I understand happened.

15 Q And when he opened his chest his heart had
16 stopped?

17 A That's what I understand happened.

18 Q And it stopped because of the large amount
19 of blood and clots that were behind the heart putting
20 pressure on the heart?

21 A That's an assumption that we make.

22 Q Reasonable assumption?

23 A It's a reasonable assumption but, you know,
24 we don't have this strong -- once you are committed to
25 open the chest then a lot of things can happen.

0106

1 Q Well, Dr. Bott evacuated the blood and

2 clots?

3 A Yes.

4 Q And after he evacuated the blood and clots
5 the heart began to beat again?

6 A Right.

7 Q So the reasonable assumption is that those
8 blood and clots were putting too much pressure on the
9 heart making it difficult or stopping it from beating?

10 MR. MITTELMARK: Objection. Argumentative.
11 Mischaracterizes prior testimony.

12 A You know, that's -- I think it's a
13 reasonable assumption but, again, if somebody walked in
14 here and said no, the heart stopped because they decided
15 to go in, correct, the chest and the heart stopped.
16 There was some effusion there but, you know, and the
17 effusion might even be compromising cardiac function but
18 the cardiac arrest may have been caused by the fact that
19 they decided to intervene. It's what I was mentioning
20 before, once you intervene now you have that component
21 there as well.

22 Q Clearly --

23 A But I don't want to -- that's not really my
24 -- it's basically a philosophical point.

25 Q It's not an opinion?

0107

1 A It's not -- no, it's not an opinion in this
2 case because I was not asked to give opinions on that
3 and I --

4 Q Well, you would agree that the timing of
5 the diagnosis of blood filling the area around the heart
6 is crucial?

7 MR. MITTELMARK: Objection, asked and
8 answered.

9 A I think so.

10 Q Dr. Zacharoudis did not diagnose bleeding,
11 correct?

12 A We don't have any records of what was his
13 differential diagnosis at the time in the morning.

14 Q I'm talking about a diagnosis, did he ever
15 diagnose bleeding?

16 A No, it doesn't look like -- you know,
17 again, we don't have any records that he did.

18 Q And he didn't do anything to stop the
19 bleeding?

20 A We don't have any records that he did. The
21 record appears to indicate that his running hypothesis
22 was atrial fibrillation with a fast heart rate all the
23 time, and that he made -- took all the steps to treat
24 that condition. That's what it looks like.

25 Q So just a couple more questions. So there
0108

1 was no diagnosis of bleeding, nothing to do to stop the
2 bleeding, we know that he was bleeding and this
3 undiagnosed and unstopped bleeding ultimately led to the
4 arrest, the coma and eventually Elie's death; is that
5 correct?

6 MR. MITTELMARK: Objection, argumentative,
7 mischaracterizes prior testimony.

8 A That's the hypothesis, that's a leading
9 hypothesis, that is my leading hypothesis, but I don't
10 have evidence to prove that that is the case, no.

11 Q Leading hypothesis meaning that is your
12 leading or your number one belief as to what occurred to
13 Elie Bental on 9/11?

14 A That's exactly it. That's my leading
15 hypothesis of what happened.

16 Q Doctor, you have no opinion -- let's shift
17 gears for a minute. You have no opinion that any other
18 physician, including Dr. Bott, Elie's surgeon, was
19 negligent in this case?

20 MR. MITTELMARK: Objection, outside the
21 scope of direct.

22 A I don't. I didn't look at the behavior of
23 any other physician with any detail.

24 Q And Doctor, you have no opinion as to any
25 physician, including Dr. Bott, that caused or

0109

1 contributed to the death of Elie Bental?

2 MR. MITTELMARK: Objection, outside the
3 scope of direct examination.

4 A No, no opinion in relation to that.

5 MR. HERSKOWITZ: Doctor, thank you, for
6 your time. I have no more questions at this time.

7 THE VIDEOGRAPHER: We're going to turn the
8 video off at this time.

9 (A break was taken.)

10 THE VIDEOGRAPHER: The video is back on.

11 EXAMINATION BY MR. MITTELMARK:

12 Q Dr. Lima, I just wanted to follow up
13 briefly with some of the questions that you were asked
14 on cross-examination by Mr. Herskowitz, and I want to
15 make sure that we're clear with your opinion on Dr.
16 Zacharoudis' order for giving heparin on September 10th,
17 2000 in response to the atrial fibrillation. What is
18 your opinion on the order for giving heparin with regard
19 to whether it deviates from the standard of care?

20 A I would have done the same thing and I
21 don't think it deviates from the standard of care,
22 although it's fair to mention that this is an area where
23 physicians behave -- that there is a lot of -- there is
24 a wide spectrum of initiatives, but I think most of us
25 would do the same thing, would have done the same thing.

0110

1 Q Dr. Zacharoudis also gave an order for
2 heparin at approximately 8:20 in the morning. That's
3 documented in the nursing notes and Mr. Herskowitz was
4 asking you questions with regard to the fact that his
5 belief Mr. Bental was actively bleeding at the time.
6 What is your opinion with regard to the second order for
7 heparin in a patient such as Mr. Bental with regard to
8 whether Dr. Zacharoudis deviated from the standard of
9 care?

10 A I think that that order signifies to me
11 that Dr. Zacharoudis believes -- believed that the whole
12 problem was fast heart rate due to atrial fibrillation.
13 He was treating as such. I don't know if he had any
14 input or not in Dr. Bartzokis' decision to order the
15 echo, but even if he did not, it's very hard to claim
16 that he deviated from the standard of care because his
17 leading hypothesis was that atrial fibrillation was
18 causing the whole problem and, therefore, he actually
19 increased the heparin which is consistent with that

20 hypothesis. Rightful or wrongful, and I would say that
21 in either case one can't really blame him. In other
22 words, that is consistent to what he was being informed
23 the situation of the patient was. Every time there was
24 hypotension, feeling bad, there was a very fast heart
25 rate and the documentation that the patient was in
0111

1 atrial flutter or in atrial fibrillation and, therefore,
2 he was acting accordingly to that.

3 Now, if he had a second hypothesis that LV
4 dysfunction or bleeding could be the contributing factor
5 or could actually be the factor, we don't know for sure
6 because there are no records of that. We assume or we
7 -- there are hints that he was thinking about other
8 options because he stopped the Diltiazem and stopped the
9 Metoprolol and then the echo was ordered in the morning
10 by Dr. Zacharoudis. So between the two of them it looks
11 like they were starting to explore other mechanisms for
12 what was going on. But I don't have any records to
13 prove that that was the case from Dr. Zacharoudis
14 himself.

15 Q Well, let me ask it this way. Mr.
16 Herskowitz asked you questions about care and treatment
17 that Mr. Bental received on September 11th after Dr.
18 Zacharoudis signed out. At 10 a.m. the nurses' notes
19 reflect that Mr. Zacharoudis -- Mr. Bental's, excuse me,
20 blood pressure was 112 over 60, the pulse was 110 and
21 the respirations were 20. The temperature was 98. Are
22 those vital signs consistent with a patient who is in
23 the process of an active bleed?

24 A Well --

25 MR. HERSKOWITZ: Objection, leading.
0112

1 A How brisk the bleed is, that is the issue,
2 but in my mind in addition to these vital signs we have
3 indications that at that point another physician took
4 over the care of the patient. And so if one looks from
5 Dr. Zacharoudis' perspective, you know, at that point
6 the vital signs were stable, he was actually going in
7 the right direction and another physician took over the
8 case. So I can't say that he deviated from the standard
9 of care.

10 Q Dr. Lima, Mr. Herskowitz asked you about
11 care and treatment that Mr. Bental received after Dr.
12 Zacharoudis signed out at 8:30 and at 12 noon the
13 nurses' notes reflect that Mr. Bental's blood pressure
14 was 98 over 58 with a pulse that had decreased to 100
15 with a respiration of 18. Are those vital signs that
16 are consistent with a patient that had been in atrial
17 fibrillation and now in response to orders given by Dr.
18 Zacharoudis were responding to?

19 A That's what it looks like.

20 MR. HERSKOWITZ: Objection, leading.

21 A It looks like up till noon that he had a
22 hypothesis and that he was actually right, and then
23 after things -- either new things developed or, you
24 know, he was proven wrong, that's difficult to say, but
25 up to the morning of 9/11 it's very difficult to

0113

1 document the fact that Dr. Zacharoudis was wrong on the
2 assumptions he had made.

3 Q And Mr. Herskowitz was asking you questions
4 about care and treatment that Mr. Bental receives after
5 Dr. Zacharoudis signed out at 8:30 in the morning on
6 September 11th. At 4 p.m. the nurses' notes reflect
7 that a blood pressure was 92 over 58 with a pulse of 98
8 and respirations of 22 with a 98 temperature. Are those
9 vital signs consistent with a patient that was
10 responding to Dr. Zacharoudis's orders in response to
11 his concerns that Mr. Bental had atrial fibrillation?

12 MR. HERSKOWITZ: Objection, leading.

13 A Again, they are consistent with that
14 hypothesis, you know. I think one can't rule out the
15 possibility of bleeding in the pericardium. One can't
16 rule out the possibility of LV dysfunction as he was
17 concerned about by stopping the Metoprolol, the
18 Lopressor and the Diltiazem. So there were other
19 possibilities, but one of them, and his leading one, and
20 we can't really prove that at that point, his leading
21 one was the wrong one was that this was due to atrial
22 fibrillation, and that's what it boils down to.

23 Q And you were asked questions about an
24 echocardiogram that was performed in this case. That
25 echocardiogram was performed after Dr. Zacharoudis
0114

1 signed out of Mr. Bental's care at 8:30?

2 A Right.

3 Q And that echocardiogram in your opinion --
4 well, what is your opinion with regard to whether that
5 echocardiogram shows an active bleed?

6 A That echocardiogram shows a pericardial
7 effusion, and it was a limited study, a very limited
8 study. So it's not a study that can tell us with
9 assurance how much of a pericardial effusion existed at
10 that time. But there is no indication from that
11 echocardiogram or from any individual echocardiogram if
12 there is active bleeding.

13 In order to document that there is active
14 bleeding you have to have two studies with a difference
15 between the two. That's the only way you can document
16 that there is actually active bleeding. You have to
17 have an echocardiogram that shows an effusion that is
18 excised and then have another one that shows an effusion
19 that is expulcised (phonetic). That's when you are
20 really sure that there is active bleeding. So in other
21 words, even if the study was more complete and we saw an
22 effusion in relation to your specific question, which is
23 active bleeding, we wouldn't be able to document with
24 one study.

25 Q With regard to the echocardiogram what is
0115

1 your opinion whether it shows cardiac tamponade?

2 A There is no evidence from that limited
3 study that the patient was in cardiac tamponade, you
4 know.

5 Q And other ways to measure whether a patient
6 is actively bleeding is by monitoring their vital signs?

7 A Yes.

8 MR. HERSKOWITZ: Objection, leading.

9 A That's one of the -- that's one of the ways
10 you can do that. It's actually not the best way but
11 it's one of the ways.

12 Q Well, we are aware from Mr. Herskowitz's
13 questions on cross-examination that the nurses had
14 several phone conversations with Dr. Zacharoudis between
15 5 and 8 a.m. on the morning of September 11th. Is there
16 any evidence in the records that you have seen of any
17 nurses' phone conversations to any physician after
18 10 a.m. on the morning of September 11th?

19 A I didn't see it but, again, I didn't look
20 at with all the details of what happens after Dr.
21 Zacharoudis is no longer -- was no longer the attending
22 physician. I assumed that once Dr. Bartzokis took over
23 the care, examined the patient, ordered the echo, that,
24 you know, my job, my primary job was mainly over. I did
25 look, I scrutinized the records of looking for what

0116

1 happened with the patient but I didn't look specifically
2 at exactly what everyone did after that.

3 Q Well, you were asked questions on
4 cross-examination by Mr. Herskowitz about Dr. Bott
5 showing up at 5 p.m. Did you get a chance to look in
6 the records of September 11th of Dr. Bott's physician's
7 assistant examination of Mr. Bental at 8:40 in the
8 morning on September 11th?

9 MR. HERSKOWITZ: Objection, leading beyond
10 the scope.

11 A Yes, this is actually a good point because
12 typically in the care of post-op patients, it's a
13 combination of clinical cardiologists and a surgical
14 team, and I did see that and it tells me that the
15 surgeons were following this patient in parallel with
16 Dr. Zacharoudis which is appropriate.

17 Q Dr. Lima, on cross-examination you
18 testified that cardiac tamponade develops rapidly, you
19 don't know when the curve becomes steep. What did you
20 mean by that?

21 MR. HERSKOWITZ: Objection. It
22 mischaracterizes the testimony.

23 A Cardiac tamponade results from accumulating
24 blood or fluid in what could be envisioned as a sac.
25 The pressure in the sac, inside the sac is what is going

0117

1 to determine if the heart stops or not or if the heart
2 function is impinged upon. So in that pressure is --
3 doesn't relate to the volume accumulated in the sac in a
4 linear fashion. What I mean is that you can put a lot
5 of volume in that sac without having any consequence to
6 the heart, and then at one point when it's filled a
7 little more volume that you put in it will impinge the
8 heart function dramatically. So the curve is flat in
9 the beginning and then very steep at one point. And
10 it's that inflection point that we don't know -- in my
11 mind, I don't know when that happened.

12 Q When you testified on cross-examination
13 that there was no evidence that the bleeding started
14 Monday morning, what did you mean by that?

15 A What I mean is exactly that that inflection
16 point, the bleeding that caused -- the additional bleed
17 that caused the tamponade we don't know when it
18 happened, and I'm not sure at all that it happened
19 Monday morning. Somebody could come in here and say
20 there is no clear cut evidence of tamponade at that

21 point. Everything was really a fast heart rate due to
22 atrial fibrillation.

23 I'm not saying that that is the truth but
24 that argument can't be -- nobody can take on the records
25 and assume that Dr. Zacharoudis was wrong from
0118

1 hypothesizing that. There's no evidence that that
2 inflection point on the pressure volume relationship had
3 occurred in the morning.

4 Q Doctor, you were asked on cross-examination
5 about the echocardiogram and you were shown again a copy
6 of your deposition which you testified that the
7 echocardiogram was very, very, very limited. In your
8 opinion, was Dr. Zacharoudis able to reasonably put his
9 impression on the report of the echocardiogram that we
10 went through in direct examination?

11 A I think everything he said about the
12 echocardiogram, despite the limitations of the study,
13 were true. I mean from looking at the study, I don't
14 think he overstepped the boundaries of the technical
15 limitations to say anything that he shouldn't have said
16 from looking at that study. Having said that, the point
17 that Mr. Herskowitz made -- Herskowitz, I'm good at --
18 Herskowitz, I think it's also relevant in that the case
19 -- the test was limited but I don't think Dr.
20 Zacharoudis said anything beyond what he was seeing.

21 MR. MITTELMARK: Thank you, Doctor, I don't
22 have anything further.

23 THE VIDEOGRAPHER: If there are no further
24 questions this concludes the videotaped deposition of
25 Dr. Lima at approximately 1:16 p.m.

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1 (Deposition concluded at 1:17 p.m.)

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1 State of Maryland

2 City of Baltimore, to wit:

3 I, Sandra A. Slater, a Notary Public of the

4 State of Maryland, County of Harford, do hereby certify
5 that the within-named witness personally appeared before
6 me at the time and place herein set out, and after
7 having been duly sworn by me, according to law, was
8 examined by counsel.

9 I further certify that the examination was
10 recorded stenographically by me and this transcript is a
11 true record of the proceedings.

12 I further certify that I am not of counsel
13 to any of the parties, nor in any way interested in the
14 outcome of this action.

15 As witness my hand and notarial seal this
16 18th day of December, 2006.

17

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19

20

Sandra A. Slater
Notary Public

23

24 My Commission Expires:

25 April 1, 2009

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CERTIFICATE OF DEPONENT

2

3 I hereby certify that I have read and examined the
4 foregoing transcript, and the same is a true and
5 accurate record of the testimony given by me.

6

7 Any additions or corrections that I feel are
8 necessary, I will attach on a separate sheet of paper to
9 the original transcript.

10

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JOAO LIMA, M.D.

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