IN THE STATE COURT OF GWINNETT COUNTY
STATE OF GEORGIA
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PAUL HENNELLY, Individually, and as the Executor of the Estate of JOSEPH HENNELLY, Deceased,

Plaintiff,

-against- **Index No. 13C05965-S6**

MARC UNTERMAN, M.D. and CARDIOVASCULAR GROUP, P.C.,

Defendants.

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DEPOSITION of BRUCE D. CHARASH, M.D., taken by Defendants at the offices of Fink & Carney Reporting and Video Services, 39 West 37th Street, New York, New York 10018, on Tuesday, January 13, 2015, commencing at 11:25 o'clock a.m., before LINDA A. MARINO, RPR, CCR, and Notary Public within and for the State of New York.

APPEARANCES:

HUFF POWELL & BAILEY,LLC
Attorneys for Plaintiff
999 Peachtree Street, N.E.
Suite 950
Atlanta, Georgia 30309
BY: SCOTT BAILEY, ESQ.
(via videoconference)

EDMOND LINDSAY & HFFLER, LLP
Attorneys for Defendants
344 Woodward Avenue, S.E.
Atlanta, Georgia 30312

BY: KEITH LINDSAY, ESQ.

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MR. BAILEY: This is the deposition of Dr. Bruce Charash taken for purposes of discovery and other purposes allowed under the Georgia Civil Practice Act. All objections are reserved except as to the form of the question or responsiveness of the answer until first use of the deposition. All formalities waived.

Dr. Charash, I don't recall, do you read and sign your depositions?

THE WITNESS: Do I what, read and sign?

MR. BAILEY: Read and sign.

THE WITNESS: I think it somewhat depends on the deposition.

MR. BAILEY: Okay.

THE WITNESS: If we have a good record, there's no reason to.

MR. BAILEY: Just let us know after the deposition.

And the doctor may very well

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choose to waive signature.

MR. LINDSAY: That's fine.

MR. BAILEY: You can swear him in.

BRUCE D. CHARASH, called as a witness, having been first duly sworn by LINDA A. MARINO, RPR, CCR, a Notary Public within and for the State of New York, was examined and testified as follows:

EXAMINATION

BY MR. BAILEY:

Q. Doctor, I'm Scott Bailey. I represent the Defendants in this case, including Dr. Mark Unterman. We have met before and I know you are familiar with this process, so I'm going to dispense with the formalities.

Can you tell me, first of all, what you've reviewed to form your opinions in the case?

A. Of course.

So, I reviewed the following sets of records and depositions: I've reviewed records from the Cardiovascular Group including, Dr. Unterman's records; Gwinnett Hospital; there

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are records from Naples Heart Institute; Southern Gastro; Covenant Family Medicine records; the Hall County Fire Services from the day of his death, his cardiac arrest; Northeast Georgia Health System; and the VA Medical Center.

I've also seen the complete set of, presumably, EKGs from his stress test that was taken. That's not part of the usual -- you know, all the expanded EKGs.

I've reviewed a large number of depositions, including that of the family of Mr. Hennelly, including -- well, I've read the deposition of -- lets go through the list -- Dr. Louis Heller; I've read the deposition of Dr. Unterman; I've read the deposition of Dr. Patel; the deposition of Dr. Alton -- sorry, Lieutenant Charles Alton Lee, the paramedic who was there; deposition of Carol Terry, who performed the autopsy.

I had received everything on disc and there were more depositions. I want to see if it's written down anywhere. I didn't print all the depos that I read.

Q. Did you read Dr. Patel?
MR. LINDSAY: He said Patel.
A. I said Patel.
Q. You said Patel. Okay.
A. And I read some more family members. So, I think I read all the depositions in this case.
Q. Have you looked at the actual autopsy report that Dr. Terry did?
A. Yes.
Q. Have you seen the echo images?
A. Yes.
Q. Echocardiogram images?
A. Yes, stress images.
Q. Okay.
Anything else that you've looked at that has helped you form your opinions?
A. No.
Q. Have you looked at any literature?
A. No.
Q. Okay.
Tell me -- I deposed you I think about a year ago in another case.
Can you just bring me up to speed

as to what your current practice is?
A. Well, it's similar to a year ago. I see patients in my office traditional 9 to 5 hours. I see primarily cardiology patients, but I'm also primary care physician to a number. I see patients in the hospital. I also manage patients when they're admitted to the acute cardiac areas. I do stress tests and echocardiograms in my office.
That's pretty much it.
Q. What percentage of your patients are cardiology patients, primarily cardiology patients?
A. The breakdown is easier if I say that 50 percent of my practice are people who came to me as a cardiologist who have their own primary care doctor.
25 percent of my patients came to me for cardiac care and then over time asked for me to additionally take on as their primary care.
And then 25 percent of my practice came to me just for primary care who at the time of their presentation did not have established

heart disease.
Q. So, about half of your patients have been referred to you by some other doctor for cardiology issues?
A. 75 percent of them, or self-referred for cardiology issues. Just one-third of that population then said, "Would you please take on my full care?"
Q. I got you.
Do you still have privileges at Lenox Hill?
A. Yes.
Q. Anywhere else?
A. No.
Q. Do you currently do any interventional work?
A. No.
Q. Have you ever done interventional cardiology?
A. No.
Q. For instance, you don't do cardiac caths?
A. Correct.
Q. Have you ever?

A. Only during my training.
Q. Which was how long ago?
A. A long time. 24 years ago.
Q. So, you don't routinely place stents.
Correct?
A. Yes.
THE WITNESS: If you're speaking, we can't hear you now.
MR. LINDSAY: We lost you.
Scott, you have to repeat that. We lost you vocally for a second there.
MR. BAILEY: Can you hear me?
THE WITNESS: Now we can.
MR. BAILEY: I didn't do anything to change, so I don't know what happened.
MR. LINDSAY: Neither did we. I don't know either.
Q. My question was: You told me that you do stress testing and echocardiography in your office?

A. In my office, yes.
Q. Is that -- you do stress echoes?
A. Yes.
Q. Do you do any nuclear studies?
A. No.
Q. Do you have any administrative roles in your practice, within the practice itself or at Lenox Hill Hospital?
A. I do not have administrative roles at Lenox Hill.
And I am in solo practice, so, by definition, I am administrative.
Q. Do you have any current professional duties outside of the patient care that you provide in your own private practice?
A. No.
Q. How many patients do you see a week, Dr. Charash?
A. It can vary. On quiet weeks, it will be less than busy weeks. Let's see if I can come up with a fair range.
On a quiet week, probably 30 patients; on a busy week, maybe over 100.
Q. Do you have clinic every day,

Monday through Friday?
A. I have the capability of having it every day. I usually am taking one day off, and it can vary, from a full-time schedule. So, I usually have one half-day where I can take off.
Q. Did that happen to be today?
A. Well, I had to take off for this, yes.
Q. Did you see patients this morning or are you going to see patients this afternoon?
A. No, I'm taking off the entire day but I'm going out to a family function later.
Q. When were you first contacted about this case?
A. I don't know.
And I don't have -- because these came by disc, I couldn't find an initial cover letter. I do have a more current cover letter when an updated disc was sent to me.
Oh, I have an idea, though. I certainly received this case somewhere in 2013, March 2013 maybe.
Q. Right, because your affidavit is signed September 2013, so I imagine it would

have been some time prior to that.
MR. LINDSAY: Scott, I have the initial transmittal letter, if you don't mind him referring to it.
MR. BAILEY: That's fine.
A. March 29, so I would have received it early April.
Q. Okay.
What did you receive as part of your initial review?
In other words, I want to know what you reviewed in order to form your opinions that are related in the affidavit of September 2013.
A. Do I list what I reviewed in the affidavit? I'm not sure.
I had reviewed as of that point the Cardiovascular Group records, records from Gwinnett Medical Center, and the autopsy report.
Those are the major medical records.
Q. How many cases have you reviewed from this particular firm, Mr. Lindsay and his firm?

A. I'm sorry, I was looking at something and I lost track of your question.
What was the question?
Q. How many cases have you reviewed for Mr. Edmond or Mr. Lindsay's firm?
A. Dozen cases, maybe.
Q. How many depositions have you done on behalf or for one of their cases?
A. I don't really know. I would say maybe six or seven.
Q. How many trials have you appeared at as an expert for Mr. Lindsay's firm?
A. A smaller number; maybe once, maybe twice, once or twice.
If it's more than two, I don't remember.
Q. At least two?
A. I'm not a hundred percent sure.
Q. How many other firms can you think of in Georgia that you've given depositions for as an expert?
A. I'm going to have a hard time answering it that way because my passive memory of where law firms are isn't great.

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I know that I have worked with maybe two or three firms in the State of Georgia. I haven't done a lot of cases with any one of the firms, so I don't know the answer because I don't see that often cases from Georgia. I've done a few other depositions in the State of Georgia, from law firms with cases in Georgia, but I really can't remember offhand.

I've probably been to Georgia four times for purposes of testifying at trial total in 25 years.

Q. Okay.

Is it fair to say that Mr. Lindsay's firm is by far the firm in Georgia that you've reviewed the most cases for?

MR. LINDSAY: Object to the form.

A. The firm in Georgia of the three law firms? Yeah, probably they are. I mean, it's relatively low, but yeah.

Q. I mean, you told me you've reviewed twelve cases for them.

A. I said maybe twelve.

Q. Okay. Maybe twelve.

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And that's the most out of any firm in Georgia that you've looked at cases for. Right?

A. Yes.

Q. Okay.

Can you give me a summary of your experience in terms of reviewing medicolegal cases as of the end of 2014 in terms of -- you know what I mean?

How many cases do you think you've looked at, how many depositions, et cetera.

A. Are you asking total?

Q. Yeah.

A. Over what period of time?

Q. For as long as you've been doing it.

A. Okay. I want to make sure I get this right.

You want the breakdown over -- I've been doing this since 1987, so it's now entering the 28th year or so.

So, you want my total medicolegal breakdown over the last 28 years for depositions and trials?

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Q. 1997 is 18 years.

A. 1987.

Q. '87, I'm sorry.

Yeah, how many cases do you think you've looked at?

A. Let me give you the best summary I have in terms of the overall story. It might answer all of your questions.

Q. That's what I asked for.

A. I have probably reviewed over 800 cases in the last 28 years from lawyers in as many as 35 to 40 states.

I have provided opinions about healthcare providers outside of my own field but never in the field of a -- I've testified against surgeons but never in the surgery field of operating, but in areas of common practice. So, if I've given opinions of a different healthcare provider, it's only in areas of common everyday practice where we might do the same thing.

Q. The interpretation of EKG, no matter which specialty it comes from, you would opine on that?

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A. Well, especially if a surgeon made a decision to base medical choices on their reading as opposed to getting it counter-read.

Q. I understand.

A. I've also been deposed in the last 28 years probably -- let me think of what the numbers are. I just lost track of what I estimate them to be.

I've probably been in trial just over 200 times and I've probably been deposed just over 300 times in the same 28 years.

In terms of ratios, about 15 to 20 percent of my time has gone to medicolegal -- sorry. There's two different breakdowns I'm confusing.

About 10 to 15 percent of my professional time, although that's difficult to quantify because a lot of it is different hours, is involved with medicolegal work and about 20 percent of my income. But the time is 10 to 15.

When it comes to defense/plaintiff, about 15 percent of the cases that I have reviewed have come from defense

lawyers and about 85 percent of the cases that I have reviewed come from plaintiff lawyers. 15 percent defense, 85 percent plaintiff.

But when it comes to testimony, 15 percent of what I receive are defense cases. Of those, half of them -- 15 percent of the cases I get are defense cases. Half of them, I'm willing to testify in and the other half I advise the defense I can't support the case. That means 7 percent of my defense cases are cases where I'm prepared to testify. Of those, even if I support the case, half of them tend to resolve before I'm asked to testify for whatever reason.

That means about 3 percent of the cases that I receive are defense cases in which I'm asked to testify, whereas very few plaintiff cases that I accept will ever resolve before I testify.

As a result, there is an abnormal ratio between the -- the percentage of cases that I get are defense versus testify. 15 percent of my review are defense but 3 percent of my testimony is defense.

Q. So, the upshot is 97 percent or so of the cases you actually testify in, either by deposition or at trial, are plaintiff cases.

A. Out of context, yes, that's true.

Q. Here's my question I have: You told me that when you review defense cases, you find that you cannot support the defense in about half of those cases.

Is that correct?

A. Correct.

Q. So, when you get plaintiff cases, what percentage of those cases are you able to say to the plaintiff lawyer, "I think this is a case and I can support you"?

A. I'm not sure I get what you just said.

Q. Well, of the plaintiff cases that you get, the 85 percent or so of the cases that you are asked to review from the plaintiff, what percentage of those are you able to say to the plaintiff's lawyer, "This is a case"?

A. Well, I think that -- well, the reason why I'm struggling to answer that is that there are two levels of screening. There's an

asymmetry in the system and I'm trying to formulate this.

When defense lawyers call me up and present a case, often they'll say, "Here's the case." And often, at least half the time or more than half the time, I will say to them on the phone, "If the facts are the way you're outlining it are true and that's how the case unfolds, I probably will not be able to support your defense."

So, I'm telling them that I'm probably going to give a negative review. And in those cases, they still want me to review it because they need me to clarify that. That's why about half the defense cases are rejected.

Because, certainly, if you're a defense lawyer, you have to defend good and bad cases, where plaintiff have to make a decision whether to pursue. So, if I tell the defense lawyer, "Look, you don't have a good case," they still, in the earlier example of discussion, they want me to review the case. So, we know in advance what's going to happen in most of those cases.

Plaintiffs' lawyers, they call me up and they present a case that doesn't sound reasonable, that it's just a bad result that happened that's known for the procedure and that's all they have, I dissuade them from wasting their time and money sending me the file. I think it's waste of time for all of us.

The difference is I have more power persuading plaintiff lawyers not to bother sending me a case than I will see in -- you see the difference there?

I will not review a plaintiff case based on if it's not one that I like. So, the number of rejections of plaintiff cases by the time I get them are lower than the number of rejections of defense cases because defense cases, they're asking me to review cases that they know I'm going to reject.

Does that make sense?

Q. Well, let me see if I can follow you.

You're telling me that when a defense lawyer calls up you up and says, "Dr. Charash, I want you to review this case for me.

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Here are the facts," and you say, "I don't think that sounds very good. I don't think I can support that," you're telling me that the defense lawyers send you the records anyway and want you to give an opinion based upon the records?

A. Yes.

Q. And that's why you account for about half of the defense cases that you review you can't support.

A. Right.

Q. And on the other side, when you get a plaintiff's case and they run the case by you and you tell them, "No, I think that's a recognized complication. I don't think that's a case of negligence," they don't send you the records and ask you to give an opinion based upon the objective evidence.

Right?

A. Yes, that's generally correct.

Q. Okay.

And that's your explanation for why you -- why there's a statistical imbalance between the number of defense cases you get and

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the number of plaintiff cases you get?

A. No, that's why there's an imbalance between the fact that 15 percent of my reviews are defense cases but less than 3 percent of my testimony are defense cases.

Q. Okay.

A. That's why there's an imbalance.

Q. All right.

So, you look at 85 percent plaintiff cases, but your testimony is 97 or so percent plaintiff cases?

A. Yes.

Q. Okay.

I'm sure you're familiar with IDEX. And we ran a financial report on you at the end of 2014, last month, and it came back -- this is testimonial history, Dr. Charash, so these aren't cases that you've looked at, these are cases where it's been reported that you testified in a matter. And the total case involvements and/or inquiries is 928 testimonial events.

Does that sound out of line to you?

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A. Yes, and the reason -- not grotesquely out of line.

I have said that I probably have reviewed about five to six -- I've probably done five to six hundred testimonies if you combine depositions and trials, even though some of them are the same case. I'm not familiar with the specifics of the list that you have obtained. I'm aware people have obtained similar lists from different sources that they pay for, I guess.

But the thing is when I've been shown lists in the past, the lists have included cases where I've just written an expert letter that was filed and I didn't testify. So, I found those to be unreliable. I've even seen cases I know nothing about. So, I'm not accepting the reliability of that list as being an accurate reflection of my testifying history, but I've given you a safe and reasonably...

Anyway, I can't just accept the premise that the list you have is an accurate quantified list.

Q. I understand that. And you may be

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absolutely correct, I'm just telling you what the report shows.

It also shows that of those 928 cases or matters, that 908 of them were for the plaintiff and 15 were for the defendant.

Is that a reasonable breakdown in terms of a representative percentage?

MR. LINDSAY: I'm just going to object to the form.

Q. In other words, it shows about 90 percent of the cases that were reported as being on behalf of the plaintiff.

A. Well, again, if that's supposed to be testimony, then I said that of my testimony 5 percent or 3 percent are defense. So, if this is saying 10 percent are defense, that's even higher than what I'm claiming.

Q. So, you don't think -- you think it's as high as 97 percent on behalf of the plaintiff in terms of testimonial activity?

A. That's true.

Q. Okay.

Has your testimony ever been excluded for evidentiary reasons, to your

knowledge?

In other words, do you know whether or not a court has ever ruled --

A. To my knowledge, no.

Q. So, you're not aware of your testimony being excluded by a court for evidentiary reasons, such as lack of scientific reliability?

A. Well, to begin with, I don't know -- I'm not present for rulings and I don't know legal opinions, but, no, I don't know of any.

I've had one or two cases in my career where I came down, for example, to Florida to testify against two different times for defendants and from the time I was hired until the time of testimony, a law had passed with certain parameters by which an expert must practice day-to-day in the same field. And as a result, they said that with the law and transition, it was better if I testified against one party.

So, the point is, I've had moments where I think I've been told that for areas of

changing law my testimony would be against one party and not against both. But other than that, I don't know of any time I've had a rejection.

Q. Other than qualifications issues, it sounds like, in Florida, for example, where the law might have changed, are you aware of any other times where you've learned subsequently that your testimony had been excluded by a court of law for a lack of scientific reliability?

A. No.

Q. Okay. All right. Let's turn our attention to your affidavit that you executed in this case.

I believe the opinions that the opinions you espoused in the affidavit are that Dr. Unterman should have performed a transesophageal echocardiogram on -- let me make sure I've got the date right -- September 25.

Correct?

A. Yes.

Q. Let me just start over.

In your affidavit, you have testified that you believe that Dr. Unterman

fell below the standard of care on September 25, 2012 by not performing a cardiac catheterization and a transesophageal echocardiogram.

Correct?

A. Yes, but my primary opinion is about the failure to refer him for cardiac catheterization.

Q. On the 25th?

A. Well, on or about the 25th, yes. I mean, it's not a literal day, but, yes, as soon as possible.

Q. What I'm getting at is: Do you have other criticisms of Dr. Unterman now?

A. Oh. Well, I think that to some degree I don't have a new criticism of Dr. Unterman, but with his testimony and looking at the big picture I think that that's going to be subcategorized into different levels to justify my opinion.

Q. Okay.

A. The big opinion is that he failed to appreciate that this patient had more likely than not presented with restenosis of his angioplasty, that that is a dangerous and

unstable condition that requires to be diagnosed and treated, you cannot medically manage it.

And it's my opinion he has a nearly passive-aggressive approach of partially treating it and partially not.

So, he testified in his deposition -- and I can cite you pages later if you want -- where he said that this was not necessarily a life-threatening disease and then he goes back and forth between the stress test was normal with the nuclear but he's going to consider cathing him when he comes back in a few weeks if he still has pain. He has issues about whether he was going to get a stress test or not, saying it was actually the patient who refused it.

So, there's some criticisms of the defendant that are going to be related to what is the story he's representing and what he should have done in different realities.

So, that's it.

Q. Why don't you do this for me: Can you just list for me the ways in which you believe Dr. Unterman fell below the standard of

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care in his treatment of Mr. Hennelly?

A. Sure.

Again, some of it is conditional on what the jury determines to be the facts in the case because some of it is not, you know, clear.

Q. I want to know what you've determined the facts to be and you tell me what you think Dr. Unterman did wrong.

A. Some of these facts are not mine to determine, but I can give conditional opinions based on what a jury accepts. I don't want to be presumptive. It is not my role to determine what the jury's job is to determine.

Right?

So, let's see, it's better if I give it some context if I tell you, that's all, because free form is harder.

Q. That's why we're here, doctor.

A. I didn't know if you just wanted a list or if I could give some perspective.

Q. I'm here to find out what your opinions are. However you want to tell me, tell me.

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A. Okay. Good.

So, Mr. Hennelly presented to Dr. Unterman with chest pain on September 4, I think it is, 2012.

Isn't that the first time he comes in with chest pain post angioplasty?

Q. He saw him in June.

MR. LINDSAY: He said post angioplasty at the end of that, Scott. You might not have heard him.

MR. BAILEY: Okay.

A. Post angioplasty. I think this is the first time he records chest pain after the angioplasty, which was only a few months earlier, and he wrote then that the patient was having recurrent chest discomfort, particularly after exertion, relieved by rest, and it is predictable on a treadmill.

With that story, Dr. Unterman had a patient who had just had an angioplasty where there were no remaining obstructions to be causing his symptom. It's not like he had two other bad blocked arteries that were waiting for

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a staged angioplasty.

So, with this patient who had a bare metal stent two months ago, where the restenosis rate is basically in the 30 percent, 35 percent because it wasn't a drug-alluding stent, with that higher rate, with this patient having chest discomfort, the more likely diagnosis at this point was restenosis at the primary angioplasty site. That's just overwhelmingly the most likely.

Number two point is that then my criticism is that by his testimony, Dr. Unterman did not explicitly say, respect that as a potential life-threatening condition. So, Dr. Unterman failed to appreciate how important it is to work a patient up for that problem rapidly.

Dr. Unterman is partially correct that restenosis is not very dangerous and very few people die of it because most people are referred back for recurrent angioplasty pretty quickly. Part of the safety of restenosis and recurrent chest pain is that most people don't end up staying outside the cath lab as long as

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this patient did, and that's why he suffered for it, whereas if you look at most people they get referred in.

With exertional chest pain, you'd have two choices with this patient, and this is where Unterman makes a mistake. Number one is his failure to accept the fact that it is most likely at this point that he's restenosed.

And here are the two options you can give the patient.

Option one is to say, "You're having recurrent pain. It's likely you have restenosis, but we have two choices: One is to cath you right away. And that's a reasonable choice, to go into the cath lab, because if this is restenosis you're going to have to be re-cathed and redilated. And because you had a bare metal stent, the likelihood is pretty high that you're going to restenose and with this pain it's likely. But if you don't want to go that route, which is not mandatory but would be the preferred route, the alternative would be to get a stress test and exercise you. Now, even if you pass a maximum stress test where you get

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to a hundred percent the rate, even if you get a maximum stress test, it's not perfect. But that said, the only way you would avoid cath is to get a stress test, do a maximal stress test with no abnormalities at all in it, a perfectly clean stress test, and if you're symptoms then go away we won't have to cath you. But the danger of restenosis is so high that your choice is to be catheterized today or come in for a stress test and if you pass it perfectly and your symptoms fade away, we can follow you and if they do go away then you don't need to recath. But the disease is not something we're allowed to just sit on and not act on."

So, that's how he would be managed.

Now, when this patient was sent for a stress test, which is reasonable to do although it's probably better to cath him, his stress test showed major abnormalities, not minor ones, major ones that are nearly diagnostic that he had an acute ischemic problem. And then doctor --

Q. You're talking about the stress

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test that was done on the 5th?

A. Yes.

Q. By Dr. Patel?

A. Yes, but it's the EKG portion and it's my understanding it was in the same office as Dr. Unterman. There are two doctors involved with stress test results: Patel who did it and Unterman who referred.

Unterman knows this patient and perspective of the patient. Patel did the stress test. Now, they both have some role, but Unterman is the one who's going to make life and death decisions for this patient and he has a duty to look at the exact data and make a decision. We do it all the time.

Anyway, the stress test, as I'll show later, was highly abnormal. And I will go over those abnormalities, but much worse than Dr. Patel or Unterman acknowledge. He had recuring pain, he had severe ischemia on his EKG. This man needed to be catheterized.

Then, finally, Dr. Patel has internal inconsistencies in his own testimony. Kind of like I said, strange things that would

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reflect standard of care violations in their own right.

He says that on September 4, he raised cath but the patient didn't want it but it's not in his note.

MR. LINDSAY: Is that Dr. Unterman?

A. I'm sorry, Dr. Unterman.

And the standard of care doesn't say that everything that goes on has to be in a note because that's not necessarily possible, but everything important has to be in a note. But more importantly, the very simple benchmark of keeping medical records is that you should include in your record important negatives and positives. In this case, another -- your note should be written so a different healthcare provider reading your note can understand what happened. If an outside healthcare provider were to read Dr. Unterman's September 4 note, they would have no idea whether catheterization was discussed. In fact, they would assume it wasn't.

So, Dr. Unterman's note does not

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on any level suggest that he discussed catheterization with the patient. It's likely that he didn't because it would be almost inconceivable he wouldn't make a reference to that.

Number two, Dr. Unterman mentioned in his deposition that if this patient had recurrent chest pain after his stress test, if it continued, persistent pain, he'd bring him back for a cath.

And, again, then he should be bringing him into the cath right away because why expose the patient to the danger of waiting to have more pain, which is dangerous? So, he's internally inconsistent.

And, finally, he says this is not a high risk disease. And it is. It's like an appendicitis is not really a very dangerous disease in the United States because people responsibly are sent to surgery. But if you were to not send someone to surgery, you can't say, "They would be safe because who dies from appendicitis?"

In this case, Dr. Unterman is

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right that restenosis is usually presented...
Anyway, I am making my point, I think. Those are my criticisms.
Q. Let me back up and ask a couple questions about that.
You made reference to Dr. Unterman's September --
MR. BAILEY: What is that?
Off the record for a moment.
(Discussion off the record)
(Pause in proceedings)
Q. With regard to Dr. Unterman's September 4 office note that you made reference to, you would agree that under his impression he writes, number one, rule out recurrent angina.
Do you see that?
A. Yes.
Q. And that's appropriate, right?
That's the whole purpose, right?
A. I agree with that goal, yes.
Q. Okay.
And then the second thing is rule out restenosis.
So, number one on his differential

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diagnosis as a cause of the pain is potential restenosis.
True?
A. Yes.
Q. So, that's number one on his differential according to his note from September 4.
You agree?
A. Yes.
Q. Then he writes number three, hypertension; and number four, aortic stenosis. Let's address that for a moment.
Do you ascribe any significance to the issue of aortic stenosis in this case?
A. I have to take it as a baseline that the cardiac catheterization that had been performed earlier that year showed that the aortic stenosis was not critical, that the valve area was 1.6 centimeters squared, which means that it would not be direct factor in this patient's crisis.
So, right now, without somebody showing something otherwise, it appears it is not.

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Q. That was confirmed by the medical examiner.
Correct?
A. Yes.
Q. So, what I want to know is you're not going to come to court and say that Mr. Hennelly's untimely death was at least in part caused by failure to recognize the significance of his aortic stenosis.
A. Correct.
Q. Am I correct?
A. Yes.
Q. I'm correct in saying you are not going to give that testimony?
A. Correct.
Q. It sounds like, Dr. Charash, your sort of issue with Dr. Unterman is simply a failure to take this man back for catheterization and treatment of what you believe to be restenosis of his right coronary artery.
Correct?
A. That would have been the ultimate outcome. My criticism is he did not bring him

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back for cardiac recatheterization.
Q. I understand. Okay.
So, you told me there were two options after his office visit on September 4. Number one, you could take him straight back to the cath lab.
Correct?
A. Correct.
Q. And number two, you could stress him, you could have him undergo a stress test.
True?
A. Yes.
Q. All right.
And you told me that although you believe that the most proper thing to do would be to cath him, that it would be reasonable under the standard of care to have him undergo a nuclear stress study.
A. I didn't hear that.
Q. You think it was reasonable under the circumstances to have him go with the study that was performed by Dr. Patel on the 5th?
A. Yes, I think the study was acceptable to go through.

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I guess it's his interpretation of the study and actions afterwards that deviated from the standard of care. I said your choice is to tell the patient they can be cathed or there's a route which would be noninvasive with very strict parameters.

So, a stress test was reasonable to do.

Q. Your issue is that you believe that the results of that stress study performed by Dr. Patel mandated a catheterization.

A. Yes.

Q. Now, do you have any criticisms of Dr. Patel's interpretation of the nuclear stress study?

A. I don't -- his reading of the EKG is wrong.

Q. Dr. Patel?

A. Patel.

Q. I'm talking about Dr. Patel.

A. Yeah, Dr. Patel's reading of the EKG is wrong.

Q. Okay.

A. And in his deposition, he's wrong

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in that there is not a millimeter of ST segment depression on the baseline. And there's a great deal more than an additional millimeter of ST depression on multiple leads during exercise. And on rest, there are some leads that during the period of recovery get worse during recovery.

So, this patient shows on multiple levels highly predictive evidence of an acute coronary attack, and, as a result, the stress test was highly abnormal and strongly indicated that he had restenosed. The nuclear portion didn't show it, but the EKG was radically abnormal.

Given that this patient had both exercise-induced chest pain on the treadmill, much more significant EKG changes than reported on treadmill by Dr. Patel, that Dr. Unterman, whose job it is to take care of the patient, should have been reading the strips. Every cardiologist who's in a position to try to figure out if this patient is in life-threatening restenosis or not, when they hear there's equivocal EKG changes, because they

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know the patient's clinical story, they know their heart, they should look at those EKGs themselves.

Because Patel was not making medical decisions, Unterman was. And, anyway, Dr. Unterman should have concluded that this patient needed to be catheterized immediately.

Q. Dr. Patel's interpretation of the EKG was at baseline he had one millimeter down sloping ST depressions.

Do you disagree with that baseline interpretation?

A. Yes.

Q. What was his level of ST depression at baseline, in your opinion?

A. Well, as I said, it's not a matter of opinion, but we'll have to one day just blow this up for the jury, which I'm recommending, because there's specific criteria of how you measure and it's not subjective, it's objective.

With that said, the pretest EKG, and I'm going to focus on four leads -- five leads.

On Lead I, there is no significant

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ST depression. This lead at the end of exercise will get more than a millimeter and in recovery will continue to worsen.

On Lead II, there is at most a half a millimeter of ST depression.

Lead III, less than a half a millimeter of ST depression.

And Lead AVF, a half a millimeter of ST depression.

And AVL, the fifth lead, has no ST depression.

So, these five leads are the five leads that are going to change over the short period of time of this stress test. Anyway, those are the five leads that are in the baseline ones.

The other thing in the pretest, the supine EKG with 0.01.

Q. That last ST depression at baseline --

A. Wait. The first words were silent.

Since you're on speaker, I have a question: Is there a source of noise there?

Because if there is, you have to break through that noise to start a sentence. Is that happening?

Q. I think it's on your end. Somebody shuffling papers, it cuts me off. I'm not doing anything. I'm completely silent here.

So, my question is, you actually believe that there are less ST depressions at baseline than Dr. Patel does?

A. Yes, there is.

Q. He says at peak exercise there is 2 millimeters of ST depression. Do you disagree with him?

A. What leads is he referring to?

Q. I don't know. Tell me what you think.

A. In this patient, and, again -- let me make it clear: I will say for the record how you measure ST depression.

ST depression is determined by establishing a baseline to compare the depression or elevation. The baseline is determined by the preceding T-to-P segment. So, you look at the segment between the last T wave

and new P wave, and that lines up with others to create a baseline.

What you do is when you get to that EKG, you go to the end of the QRS complex and then travel over on the ST segment two boxes to your right. And that's 0.8 seconds or 80 milliseconds. That moment on the ST segment, you don't go further and get to the deepest part, you move over two little boxes on the ST segment after the end of the QRS and you compare that height to the segment which is defined by the T-to-P segments above it. So, it's baseline to the ST segment but only go over two little boxes.

When you do that, this patient doesn't have a millimeter of ST depression anywhere at baseline. And at peak exercise, this patient has 3 to 4 millimeters of ST depression in multiple leads, and, more importantly, Lead 1, which had no ST depression, now has 2 to 3 millimeters of ST depression.

The other thing is that when you go to full recovery at 150, you get worsening of the EKG. AVL develops ST depression as an

inverted T wave not there at the end of exercise. AVL actually gets worse from end of exercise into recovery. So, at peak exercise AVL didn't look bad and then two minutes into recovery it's getting worse, which is generally prolonged post exercise ischemia. And Lead I went from horizontal to down sloping ST depression from the end of exercise to two minutes afterwards.

So, this patient had multiple indicators: The initial EKGs are not a millimeter, there's much more than a millimeter of additional depression, there's up to three to four millimeters in many different leads, they vary, and he can...

That's pretty much it. I mean, the stress test by the rest changes -- so, three things: Less than a millimeter of ST depression on the baseline, more than two to three or four millimeters of ST depression in different leads at the peak of exercise that even begin well before the peak of exercise, and then, finally, you have some -- I don't remember what I was going to say -- you're having a

deterioration from the EKG at the end of exercise to the two-minute mark of recovery. There are no other recovery EKGs.

But, like I said, having some leads demonstrate new problems from end exercise to recovery or worsening problems from end exercise to recovery, it's strongly predictive of coronary disease.

So, he had multiple abnormalities.

Q. I have a few follow-up questions for you.

You believe Dr. Patel fell below the standard of care in his interpretation of the study, the EKG in particular?

A. Is he below the standard of care?

I don't think he read the EKG appropriately, but he wasn't making care decisions for the patient.

Q. No, I'm asking you: Do you think Dr. Patel fell below the standard of care in his interpretation of the EKG?

A. Well, I don't mean to be nitpicky, but misreading an EKG if you're not engaged in the care of a patient doesn't mean you've done

care. So, I don't mean to be technical here.
He did not read it adequately compared to what his testimony is in deposition. But he didn't make the medical decisions for this patient.
Q. What should Dr. Patel's recommendation have been for this patient if he had interpreted the EKG according to what you tell us he should have seen?
A. Sorry, can you repeat it?
Somehow I'm twisting the question in my head.
What was the question?
Q. What do you believe the standard of care required of Dr. Patel in terms of recommendations for this patient if he had correctly interpreted the EKG?
A. Again, Dr. Patel was not treating this patient.
Q. I know that.
A. Then there would be no recommendations from him.
He would --
Q. He interprets -- in your opinion,

he can just interpret the EKG as having major abnormalities in multiple leads during multiple phases of the test and you don't think the standard of care required him to recommend anything because he's not providing care to the patient.
Is that your testimony?
A. Well, yes in that standard of care means "care." And he is doing a study, but he has somebody in his own medical group who is the cardiologist that's engaged with this patient. It's not like he's in a separate building in a separate facility, he is doing a stress test, doing the official read, but his partner Unterman, who knows this patient, is there with everything at their fingertips.
If Dr. Patel was going to be the one that said, "I will not cath you based on this stress test," and Unterman -- Patel were the one that said, "Let's not go forward," or, "Let's cancel," or, "I don't think you need it to be done," or something like that, you could say Patel engaged in care.
Q. So, you don't think Dr, Patel

should have picked up the phone and said, "Hey, Marc, this is a severely abnormal stress test. You need to talk to Mr. Hennelly and get him back in here and cath him."
That's not good medical practice.
A. Is that good medical practice?
Q. Is that what you would expect of Dr. Patel if he took the EKG?
A. No.
Dr. Patel is not the doctor who would be making these medical decisions because he was --
Q. You don't think he had any obligation if he correctly interpreted this study to tell Dr. Unterman what he thought?
A. I think he definitely had an obligation to report the test correctly and I think by not doing so, he -- I disagree with his reading. I think he's wrong. It's not just equivocal, it's abnormal.
With that said, that doesn't necessarily meet this burden of care because it's Dr. Unterman who's responsible for this patient's care and they're in the same

discipline and in the same office and Unterman knows the patient. Under these circumstances, even though I disagree with the way he read it, the translation of care is done by Unterman.
Q. Okay.
And you know that Dr. Unterman testified in his deposition that he thought the EKG did not show significant ST depressions.
True?
A. Which EKG did not show significant ST depressions?
Q. The EKG that we're talking about, Dr. Patel's study.
A. There are a lot of EKGs done.
What are you talking about?
Q. Talking about the stress EKG that we've been talking about with Dr. Patel. Same one.
A. The initial baseline one.
Q. Yeah, the September 5 EKG associated with the nuclear stress study done by Dr. Patel.
A. There are a lot of EKGs in the study.

Are you talking about the entire test?

Q. Yes, I'm talking about exercise things, I'm talking about baseline things, I'm talking about recovery things.

A. Fine. When you said EKG, I thought you were referring to one EKG.

Q. I'm talking about the entire study, the stress study.

A. Okay.

Q. You know Dr. Unterman testified in his deposition that he had a similar read as Dr. Patel did, that he and Dr. Patel agreed.

A. They agreed on what, on the -- all the readings?

Well, Unterman is wrong and Unterman -- look, the person -- they both read it wrong because there is no way you can look at those EKGs legitimately and think that there is not a massive difference in the EKGs as they evolve during the stress test. There is no way you can look at these EKGs and come up with a millimeter of ST depression at baseline and there's no way you can avoid the fact that the

ST depression is 3 to 4 millimeters in leads and that there's a deterioration from end exercise to rest and that the patient had the symptoms during the stress test and there's no way to deny the fact that such a patient needed to be cathed as soon as possible.

In that context, Unterman and Patel may have both read the EKG wrong, but Unterman is the one who was responsible for making clinical choices for his patient.

Q. Okay.

Are these ST changes that you've described, are they consistent with single-vessel disease --

A. Yes.

Q. -- that we know Mr. Hennelly had?

A. Well, yes, they are consistent with three-vessel disease.

Q. Is that what you expect to see in a patient with single-vessel disease like Mr. Hennelly?

A. Well, most ischemia on a stress test -- there's a big difference between what ischemia does on a treadmill versus what

ischemia does on the field.

If you're lying in bed and you have inferior ischemia, the inferior leads will show it. If you're lying in bed supine and you have anterior ischemia, the anterior leads will typically show it. When you're standing on a treadmill, generally no matter where the ischemia is it gets projected to inferior leads.

So, the EKG found during exercise-induced ischemia doesn't have the same predictive and localizing power and the amount of ST depression also doesn't correlate very well. So, you can't make this -- you can't look at this EKG and really say whether there's one- or two- or three-vessel disease.

You can say that because this man was stented two months ago and the only blockage was fixed that there's only one possibility: That he's restenosed his right coronary artery.

Q. Did you look at the nuclear perfusion images?

A. Yes.

Q. Do you agree with Dr. Patel's finding of a large severe fixed defect involving

the inferior wall?

A. Yes, and, again, I want, though, to qualify that I have a working knowledge of nuclear imaging but I'm not representing myself to be an expert on nuclear imaging.

Q. Do you typically interpret nuclear images?

A. No, I typically look at them and correlate them to the patient.

Q. Okay.

A. So, I would not -- I just want to make it clear I'm not representing myself to be an expert on nuclear cardiology images.

Q. Are you going to come to court and have any opinions regarding the nuclear profusion study in this case?

A. I'm simply going to say that I have no reason to challenge those results. If something was written that was way out of whack I would notice, but I have no foundation to challenge the findings on the nuclear image.

Q. Do you have any reason to disagree with the ejection fraction being 49 percent?

A. No.

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Q. You know that Dr. Patel's recommendations were medical therapy and cardiac cath?

A. Patel or Unterman?

Q. Patel. If I mean Unterman, I'll say Unterman.

Dr. Patel's recommendations were medical therapy, follow-up with referring physician, and cardiac cath if symptoms were refractory to maximum medical therapy.

Do you recall that?

A. Yes.

Q. What does "symptoms refractory to maximum medical therapy" mean?

A. Well, that varies, but generally maximum medical therapy means generally pushing betablockers to a heart rate under 60 to what's tolerated and using vasodilators to a systolic as low as you can get away without causing dizziness or low perfusion.

So, that's usually what that means.

Q. It says cath if symptoms are refractory to maximum medical therapy.

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What does that mean in terms of the symptoms being "refractory"?

A. It means that when you optimize your medical therapy and you have the heart rate and blood pressure to the best you can get and the over all burden of medications cannot be increased, a person has breakthrough symptoms.

Q. And many times, it means, "We're going to maximize your medical therapy. And if your symptoms are still present, then we're going to consider a cardiac catheterization."

Correct?

A. Well, yes, but you have to be cautious because usually that's a terrible way to wait for catheterization.

There is an understanding that restenosis is not the same condition as natural coronary disease. If you have an 80 percent blockage that's natural coronary disease and 80 percent restenosis, the 80 percent restenosis is a much more violent progressive disease because the 80 percent typical plaque that developed may have taken years to develop, years until it gets acutely worse.

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A plaque, you have a patient who has restenosis and blockage, that didn't grow over years, it grew over weeks. And those are usually faster growing and much more life-threatening. Even though you might have a lesion and think, "Well, I'll wait for symptoms," the problem is you cannot do that.

That's the difference. Restenosis is a rapidly-moving disease that doesn't act like coronary disease. It is uniformly accepted that once you've gotten into angioplasty, unless there's major contraindication to going back to reperfusion, you go back to the cath lab for re-evaluation if restenosis is reasonably suspected or demonstrated through some other less invasive way. And it would not be -- let me think.

It would not be acceptable to treat that patient who has restenosis as a stable angina patient, where you want to optimize medical therapy and wait and see. That is not an acceptable approach. When Dr. Unterman was asked whether he thought this was a dangerous disease, like I said, his answer "no"

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only makes sense in the context that we don't allow these people to sit and wait.

Q. Can you point me to any literature, Dr. Charash, that stands for the proposition that a restenosed vessel does not act like natural coronary artery disease?

MR. LINDSAY: Object to the form.

A. I think that there's a massive amount. I mean, it's almost too overwhelming to quote one source.

Just to understand, this patient had an angioplasty two months before this and we know on autopsy had major blockages of the heart. Those major blockages did not form over months and years, they formed over weeks.

Q. What major blockages on autopsy are you talking about?

A. His critically restenosed right coronary artery. On both ends of the plaque there's 90, 95 percent blockages. Presumably, those were not there when they completed the angioplasty.

So, he had a major obstruction.

Q. You told me major coronary blockages.

Are you talking about any other findings on autopsy other than the right coronary?

A. Sorry, can you repeat that question please?

Q. Are you talking about on autopsy, when you said major coronary problems --

A. Let me get the autopsy.

Q. Are you talking about any other vessels other than the right coronary?

A. Let me pull it out. Sorry. Here's the autopsy report.

Let me read from the autopsy report: The proximal right coronary artery shows focal excentric yellow atherosclerosis that is approximately 40 percent stenotic at a location that is approximately 4 centimeters from the right coronary ostium. A wire mesh stent is within the right coronary artery. The stent is superimposed upon focally-calcified atherosclerotic plaque. The location of that is approximately five centimeters from the ostium

of the right coronary artery. The stent is superimposed on atherosclerosis. It narrows the lumina of the vessel to approximately 95 percent.

There's no thrombosis -- so, there's a 95 percent blockage at the LAD in the right coronary artery at the stent site.

Q. You read Dr. Terry's deposition, and she said that the stent was patent.

A. The stent is patent but it's 95 percent obstructed at the origin of the stent. That's a crucial obstruction.

Q. Is it your opinion that the artery restenosed inside the stent or elsewhere?

A. It occurred in the stent because it says here very specifically that at the location that is approximately five centimeters from the ostium of the right coronary artery.

So, the report says five centimeters from the beginning of the right coronary artery the stent begins. Five centimeters from the beginning of the stent, then it goes down.

And it says here at the location

of this five centimeters, meaning the beginning, the proximal part of the stent, there is -- at that 5-centimeter point, the stent is superimposed upon atherosclerosis that narrows the lumen of the vessel 95 percent.

So, the stent is superimposed on a blocked area inside the stent that's 95 percent obstructed. That is in-stent restenosis. That is a 95 percent blockage inside the proximal portion of the stent.

That disease did not -- that atherosclerosis takes months and years to develop. This is two months after they did a successful angioplasty and there's a 95 percent restenotic blockage inside the stent, in-stent stenosis.

Q. So, given the autopsy findings, do you have an opinion as to the cause of Mr. Hennelly's sudden death?

A. Yes, I do.

Q. What is it?

A. That within reasonable medical certainty he had an obstruction in his right coronary artery that was restenosis and that he

did not have it repaired.

My opinion is that he developed an acute ischemic attack leading to sudden cardiac arrythmia. That simple, that he had acute ischemic attack that triggered his already sensitive heart to have sudden death.

Q. You've read testimony from various people who describe the circumstances surrounding this -- his collapse.

Haven't you?

A. He collapsed what?

Q. He collapsed, when he died. You've read people's account of what happened.

A. Yes.

Q. Yeah.

And was there any suggestion that he had chest pain prior to his collapse?

A. No.

Q. In other words, he was just talking and then fell over, right, and became unconscious --

A. Yes.

Q. -- and subsequently went into arrest and died.

True?

A. Yes.

Q. So, in other words, he didn't have any symptoms of myocardial infarction prior to his collapse, as far as we know.

Right?

A. That doesn't mean he didn't have a myocardial infarction, because you don't have to have symptoms when it begins. You can have a sudden arrhythmia.

And there's a big difference -- it's not simply myocardial infarction that's issue. If you have a critical blocked coronary artery that's in an area with active area with restenosis, you can get ischemia. And we know that for every episode of ischemia that people feel, they're typically -- you know, they're typically -- probably two-thirds of active ischemic episodes are silent compared to one-third that we experience.

So, the absence of crushing chest pain before he collapsed does not mean that was not a direct consequence of restenosis. Looking at the big picture, he had structural

abnormalities to his heart and was predisposed for sudden death, potentially, due to underlying structural disease.

But ultimately, his sudden death was unquestionably a consequence of his renarrowed right coronary artery with his recent complaints of angina.

Q. So, you told me that you believe Dr. Unterman should have taken Mr. Hennelly back to the cath lab as a result of his study performed on September 5.

True?

A. Yes.

Q. Will you refer to Page 6 of your affidavit?

A. Yes.

Q. Paragraph 6.

On September 25, 2012, the Cardiovascular Group standard of care requires that such patients be evaluated in a timely manner, that Mr. Hennelly's angina be worked up with a cardiac catheterization, that Mr. Hennelly's aortic stenosis be evaluated via TEE and a valve replacement be performed.

Now, you told me earlier that you really didn't have an opinion about the aortic stenosis, you didn't think it was clinically significant.

So, is your testimony now that the standard of care did not require a transesophageal echocardiogram?

A. I can't remember the exact order of what I reviewed, but I do not know whether when I signed this report I had the information of how little the aortic stenosis was.

Referring to the chart, it certainly seemed like the aortic stenosis was hard to ignore and looked like it was an element. But sometimes with further discovery you get more information, you find out that the restenosis was, in fact -- you find out that the aortic stenosis was 1.6 centimeters and not one that was at the range of AS. So, somewhere --

Q. You told me --

A. -- after that I must have learned it.

Q. You told me when -- September, when you did your affidavit, that you had the

Gwinnett records.

Didn't you?

A. I told you I had which records?

Q. You had the Gwinnett records, you had CBG's records.

A. Yes, but I don't know if I had complete records then. I got a chart and I got more information.

I don't remember if -- in fact, I probably had to request it. Usually the full worksheet is not presented from the cath lab unless you request that. So, you can have a chart with a face sheet but that doesn't mean you have all the data sheets. Just like the stress test, we had to request those.

Knowing what I know about the full cath report, I don't consider that a significant point. But when I first read it, it felt like aortic stenosis would be part of the case.

Q. You either formed your opinions in the case in September 2013 without seeing the full record or you just missed it.

Right?

MR. LINDSAY: Object to the

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form.

A. That's not very fair.

When you draw an opinion before discovery is complete, you can draw an accurate opinion based on the information available. Any expert should always be clear that if there is more information to be discovered, that you can only give an opinion based on the facts as you can interpret them. Sometimes --

Q. You didn't say that in your affidavit, Dr. Charash. You didn't say that you needed additional information. You said you looked at the records.

Paragraph three, you said: I've looked at the medical records from Cardiovascular Group. I've looked at the medical records, angiogram video and photographs from Gwinnet Medical Center.

A. Right.

Q. You looked at the autopsy report.

A. Yes.

Q. And you put in your affidavit and swore that you believe the standard of care required a TEE and required valve replacement.

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That was your testimony.

A. Again, at the time in good faith that was the most reasonable conclusion based on the information available to me. Then more information comes along that changes it.

Q. Okay.

A. They didn't give me the luxury of saying that I could sign the affidavit but don't sign it now if it's required to produce one and sign it in two years when you get all the information, or a year. The information trickles in and that's the basis of having an open mind, is that if new --

Q. So, what information did you have that made you think the standard of care required a valve replacement for Mr. Hennelly?

A. Well, there's a lot of suggestion of aortic stenosis and he had left ventricular hypertrophy that was significant. So, in good faith, it looked like aortic stenosis was going to be more of a role in his management. And I thought one of the potential deviations was a failure to recognize that.

When I saw him being followed over

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the last few months and I've had the opportunity to see the actual cath results and see for the first time, you know, it became more clear that aortic stenosis was not the significant factor, even though at first -- when you see the valve area calculation by the Gorlin equation, which I didn't see at first, it becomes very clear that this aortic stenosis was not a major factor in his problem even though at first it was hard to believe it wasn't.

Q. So, you've now withdrawn that criticism, essentially.

Fair?

A. Yes.

Q. You no longer believe that aortic valve replacement surgery was necessary.

Correct?

A. Correct.

Q. You no longer believe that a TEE was necessary under the standard of care.

True?

A. Not required, correct.

MR. BAILEY: He let's take five minutes.

B.D. Charash

Okay?

MR. LINDSAY: Sure.

(Recess taken)

THE WITNESS: I want to apologize for having some questions repeated. I recently had a seasonal viral syndrome. I was getting better, I woke up this morning, and my wife Sarah said I was perspiring and I looked sluggish. I didn't feel it, but I was told when I came in the room that I was actually looking perspiring too, and I think I'm having a little relapse today. And with the heat in this room...

My wife told me to cancel. She told me I should cancel at 10 o'clock. She said, "You can't do this."

I felt I wanted to do the deposition. I didn't want to cancel, so I came here. I didn't want to cancel at the last minute. But I think the price has been,

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especially in this hot room, that I've been a little slow and asking you to repeat some questions. And if I look at little tired, it's because I actually am a little sick. I don't think I'm devastatingly, but I think it was still better for me to do this, asking you to repeat some questions, then to cancel and try to do it another day.

So, please accept my apology for any time I've asked you to repeat a question. Sometimes I'm just not completely focused. My answers, I stand by. I don't think it's interfered with my capacity to give you the answers I believe, it just needs me to hear the question sometimes a second time.

MR. BAILEY: No apology necessary at all and I'm sorry you're feeling poorly. As long as you believe that you've given sufficient answers and you don't

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think it's interfered with your ability to answer my questions, then I'm happy to go forward as long as you are.

THE WITNESS: It has not and will not.

MR. BAILEY: Okay. Good.

You'll be happy to know I think I've got maybe half an hour left.

THE WITNESS: Good.

Q. I want to back up for a second and pick up with the timeline.

Dr. Unterman's office visit with Mr. Hennelly on September 4, Mr. Hennelly comes in and complains that his pain with exercise has returned.

Right?

A. Yes.

Q. And can you agree that probably the most likely diagnosis of the pain returning in a patient like this is restenosis of the vessel that had been stented?

A. Yes.

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Q. And from his previous angioplasty, we know that he didn't have significant coronary disease in the other vessels that were looked at.

Right?

A. Yes, that's correct.

Q. So, then when he comes back, he gives these symptoms of recuring pain, pain has returned, he undergoes nuclear stress test with Dr. Patel, and then he sees Dr. Unterman back in the office on the 25th of September. You recall that.

Right?

A. Yes.

Q. And then on the 25th he and Dr. Unterman are talking and we know that from the nuclear study he had an almost normal ejection fraction of 49 percent.

Correct?

A. Yes.

Q. That's after the discovery of his inferior infarction.

Right?

A. Yes.

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Q. So, he's still got very good heart function.

Would you agree?

A. Yes.

Q. Very good cardiac output.

Right?

A. Yes.

Q. His symptoms seem to be stable?

A. Correct.

Q. Would you describe this as stable angina?

A. No.

Q. Why not?

A. Several reasons.

Q. What makes it unstable?

A. Several reasons.

To begin with, the threshold of inducing angina is low level of work. This patient's stress test had to lower the workload during the middle of the stress test. So, it's coming at low threshold which means if you have it come at moderate to severe activity you can limit your activity to not get that threshold. But this is appearing to be thresholds that are

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day-to-day activities.

Number two, by definition the physiology of restenosis is more aggressive than the physiology of natural disease. You can't take the rules of physics of how a plaque responds and angina develops in a stable versus nonstable way in the original atherosclerosis disease you have whereas with a stent restenosis, inside the stent, that is not a stable environment. Even though it may look stable at first, it is inevitably going to be more volatile because restenosis is a progressive rapidly moving process. Atherosclerosis is a slow moving process.

But it takes -- we generally believe that within six months a plaque doesn't change visibly. Between six months to year, you start to see some changes. So, basically a year later you might see a plaque advance; in six months, you don't. This was a zero percent blockage that was now 95 percent blocked in two months. That's not a slow-growing process, that's an accelerated process. And the physiology of it and threat of it is different.

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We do not ever choose -- and by the way, your clients give mixed messages here because he said that if the pain continued in a week he'd talk about cath again. He also talked about cath at the very first step. So, if he was talking about cath as a first step and if you believe his testimony, or if he believes his testimony, that his first consideration was cathing and the patient didn't want to go, that means he was prepared to cath and angioplasty the patient based on the symptoms because we all know that you do not treat recurrent chest pain from restenosis the same way. You aggressively jump on it immediately.

So, he can't give two messages saying that it's stable but his first thought was cath and it was only the patient's preference that he didn't do it. And that if the patient had the same pain, same stable pain, in a week he'd go to the cath lab. He can't give both positions and say it's stable on one hand but his actions were first to cath him and if it remains stable in a week he would still cath him.

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It's not stable and your client kind of admits it in his testimony in terms of what he said he would do.

MR. BAILEY: Move to strike as nonresponsive.

Q. My question was: Why do you think this was unstable angina?

MR. LINDSAY: Well, he gave you three reasons, Scott.

A. I said low threshold pain, the fact that -- three reasons why this is unstable angina is: One, it's low threshold pain, which makes it unstable even if it's only related to activity; two is the fact that this is from -- pain has been caused by a stent, and 95 percent, as I said, came about in a period of two months, not what would normally be a period of three or four years, which means it's faster moving, which means that's it's not going to remain 95 percent very long because it's rapidly moving, and that means it's not stable like a 95 percent blockage would be where six months from now it's going to be the same; here, in six days, it may be 99 percent because of the speed

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by which restenosis moves.

So, point one was the fact that the pain is at low exercise thresholds, which is an instability itself because daily living will provoke it and that's dangerous; two is that it's a faster moving process and you cannot put rules on it; and three is your client, by his own action and words, is really blaming the patient more for his, you know, problem.

So, the doctor's testimony --

Q. Doctor, that's not a reason why it's unstable angina. That's your opinion about Dr. Unterman.

A. No, no, no.

Dr. Unterman's own testimony demonstrates why it's unstable because Dr. Unterman from the beginning when he first suspected restenosis, his first plan was to fix it.

So, you know what? It almost doesn't matter if you call it stable or unstable because that's a word. The question is: If you have restenosis, does the standard of care require fixing it as soon as possible?

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The answer is yes. And Dr. Unterman's actions were going to be -- he said, according to his testimony, he didn't want to get a stress test, he wanted to go right to the cath lab and fix it. That's what he said.

Now, why would he take an invasive test first unless he's accepting the fact that if you have restenosis, you must go in and do it?

Why would he if the stress test passed say, "You know what? If you continue to have chest pain, even with the stress test and he's not benefiting, I'll go to the cath lab"?

Why would he have to do that?

If the patient, quote/unquote, passed the stress test and has stable angina, he'd have no reason to cath him in a week if the pain persisted, and, yet, his own testimony is that he would cath him in a week if the pain continued, in spite of what you're saying, stable chest pain and a good chest stress test. He's saying, "I'll still cath him if it's still there in a week."

So, quite frankly, he's acting --

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that's actions you don't take with normal angina, that's actions you take with restenosis. He is showing a difference. His own stated plan is hyperaggressive for the reasons I'm giving.

Q. Well, my question is you know from reading Dr. Unterman's deposition and from his office visit on the 25th he says, "Mr. Hennelly is still having some chest discomfort. I cannot tell right now if this is typical or atypical angina. Starting him on 30 milligrams. Has not noticed a difference."

And his plan is to increase him to 60 milligrams a day, return in two weeks. If he is still having chest discomfort after an increase of his medications, he will plan on a cardiac cath with an eye towards revascularization, which Dr. Unterman has said he means bypass by "revascularization."

A. But if it's stable, why?

Q. Sorry?

A. Doesn't that imply that he thinks it needs to be fixed?

Q. Of course it does.

My question is: What is

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unreasonable about that plan?

Why is that plan below the standard of care, in your opinion?

A. Because the patient's disease is more aggressive and Dr. Unterman has claimed that his first recommendation was to do a cath right away and fix it, which is what he should have done, because restenosis --

Q. Is that on the 25th?

A. On the 4th, Dr. Unterman said on the 4th his first approach was going to be to cath him. And it was only the patient, he claims, refused the cath.

Now, that means if he has a patient who -- if he has a patient that -- sorry, I'm trying to relate this back.

If he has a patient who he feels should be cathed as a first step -- let me get to the exact testimony because this is really important. This is really where we have a big difference.

He says on September 4 when the patient came in with chest pain --

Q. Page number, please?

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A. 144, 145.

Page 144, question at the very bottom of the page: How are you addressing that chest pain as of the 4th? Let me strike and as you this: That complaint, did you believe that chest pain was cardiac in origin?

Answer, I wasn't quite sure but I suspected it.

Question, What steps were you going to do to confirm or dispel that suspicion?

Answer, At the time, I talked to him about repeat cardiac cath, I talked to him about the possibility he might need bypass. And he really wasn't keen on that, that's why I remember so well. So, I said let's do medical management.

Let me break that down. This patient would have at most one-vessel disease if it's angina. And he is saying in that sentence that the first thing he brought up to the patient was doing a cath and then getting a bypass.

The reason why I say that's important is you don't take people with stable

one-vessel disease, from his thinking, and have to rush right to bypass and cath unless you realize that this is more aggressive than your usual one-vessel disease.

I think that's about it. But his whole approach -- and, again we have the chart there -- his whole approach is to -- I mean, I don't know how else to say it except his demonstrated plan -- and then the other plan here...

This is the other part. You're saying what's wrong with his plan? What I'm saying is his plan is demonstrating the instability of the disease buried in it. I don't know how else to say it.

Why would he then -- why would -- like I said, if this was not a particularly dangerous disease that was time-sensitive, that I'm going to argue if it is time-sensitive, he missed the time, that's his error.

If it were not a time-sensitive disease, if the chest pain coming from a restenosis isn't dangerous, then why would this patient need to be referred to cath lab if he

continued to have chest pain for a week at the same pattern?

Why couldn't he be referred in five months or a year?

He has stable angina. People can be medically treated.

Why is there any time sensitivity?

In the moment, there is a time sensitivity. What I'm arguing is he waited too long. If a patient passed the stress test, if he continues the same pain and the same pattern, why would he in a week want to cath him?

Q. When did the standard of care require catheterization for this patient?

A. I think that given the nature of this patient's chest pain, the fact that it was a first recurrence and the likelihood that it was coronary, he should have been referred for cath immediately on the 4th.

But that the said, a distant second choice, which is not ideal, would be to stress him on the 5th. And only if the stress test were totally perfect would you then be able to watch him for symptoms and make a decision.

And you don't then send him out on the 5th and then come back on the twentysomething for evaluation. You evaluate him the next day and follow him closely.

My point is that the only way that you can reasonably medically justify not catheterizing the patient is by a perfect stress test and, basically, resolution of the symptoms, which requires very close followup. But time is your enemy.

Q. Based on your interpretation of the stress test, did the standard of care require catheterization of Mr. Hennelly the next day, which would have been the 6th?

How urgently did he need to be re-evaluated by cath?

A. Well, I think it should have been as soon as possible, especially given the fact that low thresholds of activity provoke chest pain. He can't be allowed to do things around the house.

Q. Was it beneath the standard of care for Dr. Unterman to manage him by increasing his Imdur and see if that would

relieve symptoms first?

A. No, that would be a deviation of the standard of care.

As a short-term bridge to getting him logistically cathed, you can do that. But as a means of delaying that medical decision, you can't do that.

Q. If Dr. Unterman sees him on the 25th and tells Mr. Hennelly, "We're going to increase your medication. I want to see you back in two weeks. If you're still having pain, we'll take you back to the cath lab"?

A. That's an outrageous plan because you're basically saying, "If you haven't died, we'll take you back to the cath lab."

Q. Your testimony is, Dr. Charash, is no reasonable cardiologist would have recommended that to his patient?

MR. LINDSAY: Object to form.

A. No, I said that it's okay if you stress him very soon and then if he passes perfectly, you watch him closely for symptoms, you maximize his drugs, and if anything changes

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you then --

Q. I'm talking about the 25th. They already stressed him.

A. He should have been in the hospital on the 6th, and, therefore, by the 25th, he should have been in the hospital on the 25th.

He shouldn't have had an appointment that late on the 25th after the stress test. But let's say the patient was lost to follow up, came back on the 25th, you send him back to emergency room, you say, "You're on borrowed time because you have restenosis. And you know what? We did a stress test three weeks ago. Your disease has probably has gotten worse because this disease moves really fast. You didn't develop that 95 percent blockage overnight, but if you're restenosing, it's going to get worse. So, whatever your stress test threshold is, we have to assume if it is restenosis it's worse than it was."

Q. You think he should have been sent to the emergency room on the 25th?

A. With the stress test results that

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he had, he should have been called up and told to come in on the 6th and on the 7th and on the 8th and on the 9th. Yes, by the 25th, if he were lost, you'd bring him immediately back to the hospital and cath him.

Q. I understand your opinion.

So, educate me for a moment: If Dr. Unterman had taken him back on the 6th to the cath lab and he found a restenosis of the right coronary, what intervention was available at that time to revascularize that artery?

A. Probably a drug-alluding stent because what Dr. Unterman did not factor in his discussion is the fact that the original lesion was much bigger than what it was when the patient came back.

Dr. Unterman had a blockage that he used a regular stent. But now the patient has come back, we know from the pathology, with a very localized singular area with a 95 percent blockage. So, actually, this recurrent disease is less aggressive in terms of the actual length -- anatomy of the lesion is less dangerous, so --

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Q. Do you have an opinion more likely than not that Dr. Unterman could successfully have placed a drug-alluding stent on the 6th?

A. I don't know Dr. Unterman's skill set. I couldn't put in a stent because I don't have the skills. I don't do it.

What I'm saying is that based on what the autopsy showed and based on what they described the original blockage to be and based on my viewing of the original catheterization, the recurrent disease was a far more simple blockage than the original disease.

Now, I would say that he needs to be revascularized. I get that part. And I can get why Dr. Unterman thought that he might need to be bypassed before he saw the anatomy because he would be concerned that the patient was -- sorry, I lost my train of thought.

Dr. Unterman would have to be concerned that -- Dr. Unterman would be concerned that if the patient restenosed, it might be complicated like it was in the first blockage. So, before he saw the anatomy...

So, if he's going to recath him if

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he comes back with restenosis along the whole stent line, maybe he does need a bypass because the original blockage sounds like one that Dr. Unterman didn't want to do a drug-alluding stent. But he comes --

Q. Since you don't do caths, you don't place stents, you can't tell me what Dr. Unterman could have done or should have done if he went back in and cathed him with an eye toward revascularization.

A. To begin with, I'm not here to testify about Dr. Unterman but what the standard of care would permit as an option for a patient and referring thousands of patients for cath and making -- just like I refer people for bypass surgery and tell my patients what they're facing even though I don't do it. That's the nature of being the clinical cardiologist, is you make the choice with the patient as to what their best option is.

So, I don't know what size balloon to use, but I do know what my patients should be referred to and what they should expect when I send them to an interventional doctor. What I'm

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telling you --
Q. That's not my question.
A. Well, my point is if he had restenosis based on the anatomy of the autopsy, it was a focal point, and that's usually stented.
Q. That's not my question.
My question is: You're not going to come to court and testify as to what Dr. Unterman could have done or should have done if he recathed him.
A. No, I'm going to testify what the standard of care would have required the patient to receive. There's a difference.
Q. So, some intervention?
A. What?
Q. That's as specific as you can get, the patient required some intervention to revascularize his right coronary vessel.
A. Yes.
Q. As to whether or not it could have been a drug-alluding stent placed inside the original stent or whether it was balloon angioplasty, you can't say.

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A. With certainty, I can't say. With reasonable medical certainty, I can. There's a difference. I can say with reasonable medical certainty -- "reasonable" being the word there, not "absolute."
With reasonable medical certainty, the autopsy showed he had a focal renarrowing, and that would almost always be treated with a stent, a drug-alluding stent. And that is different than --
Q. It was inside of the original stent?
A. It was at the very outer edge of it, so my guess is they -- or they would just do another angioplasty.
But the point is that nonsurgical intervention would be the most likely first approach on that restenosis and then surgery would be the second choice. That, I can testify to.
Q. And you agree you'd be very reluctant to do a single-vessel bypass on a 66 year old patient.
A. You would have no reluctance to do

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it if there's no angioplasty solution. You wouldn't be reluctant to operate on this patient, you'd be reluctant to make it the first choice if interventional is an option. That's the only thing you're reluctant about.
Q. Dr. Charash, would you agree with me it's highly unusual for someone to experience sudden death from a 95 percent restenosis of a single vessel?
A. Generally, the reason why it's very rare for someone to die from sudden death is they're not allowed to come about -- when symptoms develop, they're not allowed to walk about for a long period of time.
The point is that this patient went weeks after the symptoms began. Most people like this would be fixed within a short period of time. So, like I said, it's very rare for people to die of appendicitis, but if you choose not to send your patient to the hospital you can't be surprised if they die of a disease that you shouldn't die of.
So, single-vessel restenosis is a relatively low risk disease because the warning

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symptom to repair time is fast enough that very few people actually get much worse. But if you choose not to act and you leave them out there without fixing it, you're going to start getting worse outcomes.
So, you can't take the rule that it's relatively stable disease because we intercede so quickly and then apply that and say, "Well, then, it should be fine for this patient to be an outpatient for five weeks without being fixed."
Q. I understand. That's not my question.
My question is: Even knowing that this is likely restenosis and he's likely having some angina from a restenosis of a single vessel, you increase his medications, isn't it true that it is still very rare for a patient like that to experience sudden death?
A. No, not if you do not -- if you ignore the physical findings, it is not rare.
Q. Do you disagree with the notion that Mr. Hennelly was still at relatively low risk for sudden death even accepting the

probability that his vessel had restenosed on September 25?
A. No.
Q. Do you think he was at high risk for sudden death on September 25?
A. Yes, because restenosis is a rapidly progressive disease. He had very concerning signs on September 5. Twenty days later, his heart has to be assumed to be worse and he can have sudden death at any time. It is not a surprise he died.
MR. BAILEY: Give me just a second, please.
(Pause in proceedings)
THE WITNESS: I want to say, by the way, I'm going to read and sign because I have not felt well during this deposition.
Okay?
MR. BAILEY: That's fine.
Q. Are your rates still $400 an hour.
A. I'm going to be increasing them, but for the purposes of this case I'm keeping the $400.

Q. As I recall, that's $400 across the board; for review, deposition, court appearances, et cetera.
A. Yes.
Q. What are you increasing your rate to?
A. $450.
I've had the same rate for the last nine years. So, I'm going to increase it to $450, but not for this case because we agreed to the deposition beforehand.
Q. All right.
Have you told me all your opinions with regard to Dr. Unterman's care?
A. Yes.
Q. Is there anything -- strike that.
Is there any aspect of his care that you believe fell below the standard of care that we have not addressed?
A. No.
Q. Do you think that you've sufficiently told me all of the opinions that you intend to tell the jury in the case?
A. Yes.

MR. BAILEY: Okay. Thank you. Those are all my questions.
THE WITNESS: Thank you.
MR. LINDSAY: I don't have any questions.
(Time noted: 1:35 p.m.)

CAPTION

The Deposition of BRUCE D. CHARASH, M.D., taken in the matter, on the date, and at the time and place set out on the title page hereof.

It was requested that the deposition be taken by the reporter and that same be reduced to typewritten form.

It was agreed by and between counsel and the parties that the Deponent will read and sign the transcript of said deposition.

CERTIFICATE

STATE OF_____:
COUNTY/CITY OF_____:

Before me, this day, personally appeared BRUCE D. CHARASH, M.D., who, being duly sworn, states that the foregoing transcript of his/her Deposition, taken in the matter, on the date, and at the time and place set out on the title page hereof, constitutes a true and accurate transcript of said deposition.

_____

BRUCE D. CHARASH, M.D.

SUBSCRIBED and SWORN to before me this_____ day of _____, 2015, in the jurisdiction aforesaid.

_____ _____
My Commission Expires Notary Public

DEPOSITION ERRATA SHEET

RE:
FILE NO. 13C05965-S6
CASE CAPTION: HENNELLY vs. UNTERMAN, et al.
DEPONENT: BRUCE D. CHARASH, M.D.
DEPOSITION DATE: JANUARY 13, 2015

To the Reporter:
I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me. I request for the following changes be entered upon the record for the reasons indicated.
I have signed my name to the Errata Sheet and the appropriate Certificate and authorize you to attach both to the original transcript.

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SIGNATURE:_____ DATE:_____
BRUCE D. CHARASH, M.D.

INDEX

(No exhibits marked)

CERTIFICATE

STATE OF NEW YORK)
) ss.
COUNTY OF NEW YORK)

I, LINDA A. MARINO, RPR, CCR, a Shorthand (Stenotype) Reporter and Notary Public of the State of New York, do hereby certify that the foregoing Deposition, of the witness, BRUCE D. CHARASH, M.D., taken at the time and place aforesaid, is a true and correct transcription of my shorthand notes.

I further certify that I am neither counsel for nor related to any party to said action, nor in any way interested in the result or outcome thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of January, 2014.

_____
LINDA A. MARINO, RPR, CCR