IN THE COURT OF COMMON PLEAS

CUYAHOGA COUNTY, OHIO

RICHARD KEITER, etc.,)
Plaintiff,)
vs.) Case No. 535034
FRED KESSLER, M.D.,)
Defendant.)
)

DEPOSITION OF:

TIMOTHY R. S. HARWARD, M.D.

FRIDAY, JULY 15, 2005

10:20 A.M.

Reported by:

Kathleen E. McCarthy

CSR No. 4483

Deposition of TIMOTHY R. S. HARWARD, M.D., the witness, taken on behalf of the Plaintiff, on Friday, July 15, 2005, 10:20 a.m., at 1140 West La Veta Avenue, Suite 850, Orange, California, before Kathleen E. McCarthy, CSR No. 4483.

APPEARANCES OF COUNSEL:

FOR PLAINTIFF:
FINELLI & MARGOLIS P.L.L.
BY: RONALD A. MARGOLIS, ESQ.
DANIEL M. FINELLI, ESQ.
730 Leader Building
526 Superior Avenue
Cleveland, Ohio 44114

FOR DEFENDANT:
REMINGER & REMINGER
BY: SUSAN M. SEACRIST, ATTORNEY AT LAW
1400 Midland Building
101 Prospect Avenue, West
Cleveland, Ohio 44115-1093

ALSO PRESENT: KENNETH McNEAL, VIDEOGRAPHER

INDEX

EXHIBITS

NO.	PAGE	DESCRIPTION
		(None)

INSTRUCTIONS NOT TO ANSWER

PAGE	LINE
55	25

INFORMATION REQUESTED

PAGE	LINE
(None)	

ORANGE, CALIFORNIA; FRIDAY, JULY 15, 2005
10:20 A.M.

THE VIDEOGRAPHER: Here begins Volume No. 1, videotape number one, in the deposition of Timothy -- Dr. Timothy Harward in the matter of Richard Keiter versus Hillcrest Hospital in the Court of Common Pleas of Cuyahoga County, Ohio. The case number is 535034.

Today's date is July 15, 2005. The time on the video monitor is 10:20 a.m.

The video operator today is Kenneth McNeal, a notary public, contracted by LegaLink of Los Angeles at 16830 Ventura Boulevard in Encino, California.

This deposition is taking place at the doctor's office at 1140 West La Veta Avenue, Suite 850, in Orange, California, and was noticed by Ronald Margolis of Finelli & Margolis.

Counsel, please voice-identify yourselves and state whom you represent for the record.

MR. MARGOLIS: Ron Margolis, plaintiff.

MR. FINELLI: Dan Finelli, plaintiff.

MS. SEACRIST: Susan Seacrist, Fred Kessler, M.D.

THE VIDEOGRAPHER: The court reporter today is Kathy McCarthy of LegaLink of Los Angeles.

Would the court reporter please swear in the witness.

TIMOTHY R. S. HARWARD, M.D.,
having been first duly sworn, was
examined and testified as follows:

EXAMINATION

BY MR. MARGOLIS:

Q. Good morning, doctor. We have had the opportunity to meet briefly before. My name is Ron Margolis. The gentleman to my right is Dan Finelli. Jointly we represent the Estate of Abigail Keiter.

Doctor, one of the things you were asked to bring with you today was your full and complete file relative to your work as an expert witness where you have been identified by Mrs. Seacrist in this case. Did you bring with you today your full and complete file, sir?

A. I did.

Q. And where is it?

A. On the floor right here.

Q. Okay. What I would first like to do is start off by indexing everything that you reviewed prior to dictating your report in this case. Okay? So if you

Page 6

would be kind enough to access the material so that you could just kind of give me a list. And again, sir, what I'm interested in is all of the information prior to you writing your report.
A. Medical records of Mrs. Abigail Keiter is what I reviewed. These records began, I believe, as early as January, 1991, up until her autopsy after her death in July of 2001, I believe.
Q. And did those medical records, sir, include the chart of her family physician, Dr. Granieri?
A. Yes.
Q. And did they include her hospitalization at Hillcrest from May -- excuse me -- in November of '01, University in November of '01?
A. Yes.
MS. SEACRIST: University Hospital?
MR. MARGOLIS: University, yes.
THE WITNESS: Yes.
BY MR. MARGOLIS:
Q. And December Hillcrest Hospital records?
A. Yes.
Q. And the records of Dr. Monica Ray?
A. Yes.
Q. As well as the outpatient chart of U.H. Gastroenterology?

Page 7

A. I don't know if I had the outpatient records of U.H. Gastroenterology. I can't answer that question.
MS. SEACRIST: I'm going to object because I don't think that's the proper title specifically.
MR. MARGOLIS: Why don't you show me the records that you have that are from Dr. Ray.
THE WITNESS: I'll let you go through and find them.
MS. SEACRIST: I mean there's an index at the front of every volume, so you'll be able to see just looking at one index everything he reviewed.
BY MR. MARGOLIS:
Q. Did you review Dr. Ray's records?
A. I reviewed what's in here, yes, but what volume they're in, I don't know.
Q. Okay. And if it's not in these one, two --
A. It's in this one.
Q. -- three -- so these five volumes would be the volumes that you reviewed in this case; is that correct?
A. Six.
Q. Six volumes? Okay.
I believe you did have the chart of Dr. Ray, by the way.

Page 8

Did you review any films?
A. I believe I reviewed the CT scan of December 7, 2001, from Hillcrest Hospital.
Q. Anything else? no depos
A. No.
Q. Doctor, you were also asked to bring with you any correspondence that would have been generated either by you or by defense counsel. Did you bring -- did you ever receive correspondence from defense counsel in this case?
A. Yes.
Q. And did you bring that correspondence with you here today?
A. No.
Q. And where is it?
A. Probably in the Los Angeles landfill.
Q. You threw out the correspondence?
A. Yes. I do not normally save them. They're nothing more than usually "Enclosed is" such and such "document for your review. Call me if you have any questions."
Q. Do you have a specific recollection in this case that the only thing you would have received from defense counsel would have been transmittal letters that say "Enclosed please find"?

Page 9

A. That's all I remember, yes.
MR. MARGOLIS: Okay. And just for the record, there was a duces tecum that was issued where the correspondence was asked to be provided. It's my understanding that defense counsel will make that available to me at a later date.
MS. SEACRIST: That's correct.
BY MR. MARGOLIS:
Q. Doctor, do you use e-mail?
A. Yes.
Q. And was there any e-mail that occurred between you and defense counsel in this case?
A. I think once or twice when I had written this document, I sent her a rough draft that I had originally written to show her what my ideas were. I received a response back that said "Thank you very much." Then I basically went through it to correct my English and make it sound intelligent and sent it back. Nothing else changed.
Q. So as I understand it, the report that you authored in this case -- and I don't think it has a date on it, does it, sir?
A. I don't know that it does or it doesn't. I don't normally date them.
Q. As I understand it, the report that you

authored in this case, you did a rough draft, and you then e-mailed that rough draft to Mrs. Seacrist's office?
A. Yes.
Q. And Mrs. Seacrist then reviewed the rough draft of your report?
A. Um-hum, just so she could see what my ideas were.
Q. All right. And then did you and Mrs. Seacrist speak over the phone after she had the opportunity to review the rough drafts of your report?
A. Yes.
Q. And were there any notations that were made contemporaneous or subsequent to that telephone conversation with Mrs. Seacrist?
A. No.
Q. And as a result of the telephone conversation that you had with Mrs. Seacrist, did you make any changes to the rough draft of your report?
A. None.
Q. So the rough draft of your report that you've e-mailed to Mrs. Seacrist, other than grammatical changes, is the exact -- is the exact report that you actually submitted setting forth your opinions in this case?

A. Yes.
Q. Tell me the logistics of -- do you dictate the report? Do you type it yourself on a computer? How does that work?
A. I type it myself.
Q. And is it on a computer in the office or a home computer?
A. Home computer.
Q. Let's talk a little bit, sir, about prior work that you've done for the law firm of Reminger & Reminger. Have you been retained on any present cases other than the Keiter case by the law firm of Reminger & Reminger?
A. I don't think so.
Q. Have you done work for the law firm of Reminger & Reminger on any case before this case?
A. Not that I recall.
Q. Have -- have you ever testified in federal court?
A. No.
Q. Do you know the names of any of the lawyers at Reminger & Reminger that you may have done work for? If I were to say --
A. Susan Seacrist.
Q. -- the name Susan Seacrist, Bill Meadows,

Stephen Walters, Marc Groedel?
A. I don't know them.
Q. Okay. So is it your testimony that this would be the first and only case that you have been retained on as an expert by the law firm of Reminger & Reminger?
A. That I remember, yes.
Q. Do you keep any records of your expert work that you would be able to review to see if you've been retained by them previously?
A. I don't keep very good records after the cases have been completed. I pretty much shred everything, so it's gone.
Q. Are there any publications that you're working on that are under submission right now?
A. No.
Q. Any abstracts that are not listed on your CV?
A. Yeah, we have one that we've submitted to the Western Vascular which has been accepted on retroperitoneal approach to repair of the aorta, but other than that, that's it right now.
Q. Have your hospital privileges ever been diminished, revoked, or suspended?
A. No.
Q. What hospitals do you have privileges at?

A. Saint Joseph's Hospital here in Orange.
Q. And tell me a little bit about Saint Joseph's Hospital. How large is it?
A. It's about a 450-bed tertiary hospital here in Orange County situated right in the center of the county. It pretty much does all aspects of medicine. It's associated or affiliated with the Children's Hospital across the street as well.
Q. And are you simply a physician that has staff privileges there, or do you have any other position at the hospital?
A. I'm the director of vascular surgery, the chief of vascular surgery there, not to downplay just being a staff physician. I have been involved very much so with the administration aspects of being on the Medical Executive Committee for years but recently have given that up, just time constraints.
Q. Tell me a little bit about the nature of your present practice. Do you do general surgery as well as vascular surgery?
A. No, I do not do general surgery at all. I do strictly vascular surgery. It consists of all aspects of vascular surgery from as small as doing a sclerotherapy or varicose veins ablation to as large as doing both open and endovascular repair of thoracic

Page 14

aneurysms. I'm probably the first person in Orange County to do a thoracic aneurysm, put in an endograft.
Q. Now, doctor, how many revascularizations of the mesenteric arteries have you done?
A. Since I left the University of Florida I sort of lost count. I used to keep track of that, but I would say probably in the range of 70 to 80.
Q. When did you leave the University of Florida?
A. Ten years ago.
Q. So in the past five years how many revascularizations of the mesenteric arteries have you done, if you know?
A. I don't know exactly. If I can estimate, I do probably somewhere in the range of two or three a year now. I had one year in Florida I did 15 in one year. I mean that was what I did academically, but here I'm not out searching for those patients like I was before.
Q. So you would agree with me if you do about two or three mesenteric artery revascularizations a year in the past five years, how many surgeries, vascular surgeries, do you do a year?
A. I don't know the answer to that. It varies I'm sure anywhere from -- probably do somewhere in the range of 150 major vascular procedures, and then

Page 15

there's just an awful lot of smaller procedures, dialysis shunts, fistulas, pseudoaneurysm repairs for the cardiologists, et cetera, that I don't even think about that add up.
Q. So you would agree with me that mesenteric artery revascularization is a substantial minority of the surgeries that you perform at least over the last five years?
A. I think it's always been the minority of the procedures that I perform.
Q. You are board certified?
A. I am.
Q. Passed the test the first time out?
A. I did.
Q. With what insurance company do you presently carry your liability or malpractice insurance coverage?
MS. SEACRIST: Objection. I'll allow him to answer, if you know.
THE WITNESS: I know.
It's a physician co-op here in Orange County known as CAP-MPT.
BY MR. MARGOLIS:
Q. Have you received any information or do you -- from your insurance company about serving as an

Page 16

expert witness in medical malpractice cases?
A. No.
MS. SEACRIST: Objection.
BY MR. MARGOLIS:
Q. Are your premiums at all diminished by virtue of you being willing to review cases on behalf of an insurance company?
MS. SEACRIST: Objection.
THE WITNESS: No.
BY MR. MARGOLIS:
Q. How long have you been doing medical/legal work, sir?
A. About 16 or 17 years now.
Q. Have you ever advertised your services?
A. No.
Q. How many depositions do you give a year, let's say in the last five years?
A. Anywhere from about five to ten a year.
Q. And how many times over the last five years have you gone to court to testify?
A. Not very often. I don't like going to court. It interrupts my schedule at home. Probably on the average of once a year. Some years you don't go at all; some cases you'll go twice.
Q. How many medical/legal cases do you review on

Page 17

a yearly basis?
A. It varies from year to year. On the average I would say somewhere between probably about ten. The busiest year, I think, was two or three years ago I did 17 or 18 in one year.
Q. What is the split, sir, between instances where the patient has engaged your services to review a medical case versus the physician engaging your services to defend a medical case?
A. It has changed a lot over the years. When I started doing this at the University of Florida, I did only defense.
Q. How many years was that, sir?
A. Sixteen, seventeen years ago.
Q. I mean how many years did you only do defense?
A. The years I was at the University of Florida.
Q. And how many years was that?
A. Six or seven years.
Q. And why is it over the six- or seven-year period you only would review defense cases?
A. Because I worked for the state university.
Q. What does that mean?
A. It means I got my referrals from the physicians around the state, so I defended all the

Page 18

people around the state.
Q. So it was just by virtue of those were the types of cases that came to you.
A. Right. That's what came.
Q. Okay.
A. And once I left the university and as the defense attorneys got a little older, because defense attorneys sometimes tend to be a little younger, many of them moved out into the plaintiff world, and I was no longer at the university. The practice has changed a little bit. I still do more defense than I do plaintiff. I think that last count, which was probably six months ago, I was somewhere in the range, the best I can -- I mean I estimate it's around 60 percent defense now. I'm doing more plaintiff than I used to just because I'm more accessible.
Q. Do you remember a case that you recently testified in the last couple of years in Philadelphia dealing with vascular surgical issues?
A. No, because I don't think I have ever had a case in Philadelphia.
Q. Okay.
A. If I have, you'll have to refresh my memory on that.
Q. I will.

Page 19

It's my understanding that your charge for this deposition today is a flat fee of $2,000?
A. That is correct.
Q. And if we're here a half hour or four hours, it's $2,000.
A. That is correct.
Q. And what is the charge, doctor, for you to come to court to testify?
A. It will be $5,000 a day plus expenses of travel and stay.
Q. You were also asked to bring with you today your bill for work that you've done on Mrs. Seacrist's request up to date. Do you have that, sir?
A. I do.
Q. May I see that, please.
Thank you, sir.
If I'm interpreting this accurately, up through June 8 of '05 you've billed and were paid $14,031.35?
A. If that's what it says.
Q. Okay. And are these minutes, sir, these numbers?
A. Yes.
Q. Okay.
A. There's been no bill submitted.

Page 20

Q. Okay. And how much, sir, is your hourly rate for review of records?
A. It depends on what the person requests. If it's a routine review, it's $400 an hour. If it's an urgent review, which means within two weeks, it's $500 an hour, and if they need it yesterday, it's usually $600 an hour.
Q. Are there any plaintiffs cases where you have been retained as an expert dealing with issues of mesenteric ischemia?
A. You know, I'm sure there have been, but I don't recall right off the top of my head. I don't have any actively going right now.
Q. Do you have any of the reports that you would have written on the plaintiffs cases where you were retained and the issue was mesenteric ischemia?
A. No. I don't save any of those. Everything is shredded.
Q. To the best of your knowledge, sir, in the last five years have you served as an expert on behalf of a plaintiff where the issues of the case dealt with mesenteric ischemia.
A. I'm sure I have.
Q. The computer that you're using, sir, to write your reports on --

Page 21

A. Um-hum.
Q. -- have you been using that same computer for three or four years?
A. No. We actually had a hard disk crash. Bought a new computer I think sometime within the last year.
Q. Did you download the information from your old computer into the new computer?
A. No.
Q. Do you know the name of any plaintiff's lawyers who you have worked for in the last five years?
A. Yes.
Q. May I please have those names, sir.
A. Well, let's see here. There's Robert Spector, who is in Fort Lauderdale, Florida.
MS. SEACRIST: This is any case, not just mesenteric ischemia cases?
MR. MARGOLIS: Correct, any plaintiff's lawyer.
MS. SEACRIST: Okay.
THE WITNESS: There's the firm of Babbit, Johnson, La Claniche, Osborne, and I've done three or four cases for that firm with La Claniche, one with Osborne, and one with Johnson, I think.

Page 22

There's a young lady I think in Miami named Lisa Levine. I haven't worked with her for quite some time, but it probably would have been in the past five years.

There was a case in Clearwater, Florida, with a fellow by the name of Joe Magri.

I'm sure there are others that just don't come to mind.

BY MR. MARGOLIS:

Q. Doctor, do you have a copy of your bill, sir?

A. That's all I have.

Q. Okay. If you would look on 4-26, you say "affidavit revision." Do you refer to your report as an affidavit?

A. Yes.

Q. Okay. You had testified earlier that there were no changes made in the report. What was it that you revised that in April you submitted a 30-minute bill for?

A. Took me about 30 minutes to correct most of the grammar mistakes that I had made and go through spell check.

Q. Okay.

A. Spell check is wonderful.

Q. Any other plaintiff's attorneys that you

Page 23

recall doing work for?

A. Not off the top of my head, no.

Q. And as I understand it, you have no means by which to assess prior cases where you have served as an expert for a plaintiff and the issue was mesenteric ischemia.

A. No.

Q. Did you ever give plaintiff a positive opinion on cases where you were asked to review involving the medical issue of mesenteric ischemia?

A. What do you mean by "positive opinion"?

Q. Well, if a plaintiff asked you to review a case and you felt that the case had merit.

A. I'm sure I have.

Q. Okay. Do you recall any of the facts of those cases?

A. No.

Q. Do you recall what states?

A. No, because -- but I can tell you that the majority of what I do is somewhere in the southeast, large number of it in Florida.

Q. Okay.

A. But other than that, I don't think I could tell you any further than that.

Q. Thank you very much.

Page 24

Do you know how it is Mrs. Seacrist obtained your name in this case?

A. I have no idea.

Q. How were you first contacted? Was it by telephone? By e-mail?

A. No. What happened initially, as happens in most of my cases, somebody in her office called and talked to the secretary in this office and asked if I would be interested in reviewing the case, nothing more, nothing less, and I said yes, and with that came a box of records and basically said, you know, "Enclosed are these records. Would you please review these and give us your opinion."

Q. Did you know at the time when you received the records in this case that Mrs. Seacrist was representing Dr. Kessler, the defendant?

A. I had no idea, actually. She and I have actually talked about that because I just sat down and read the records, and I wasn't sure if I was reading a defense case or a plaintiff case. Pretty much the report I generated was along those same lines. It wasn't trying to give a positive opinion whether this was a good defense case or whether it was a good plaintiff case. It was just what my opinions were --

Q. Fair enough.

Page 25

A. -- after having read the records.

Q. Fair enough.

A. That's why I say it's not uncommon. A lot of times I'll read depositions before they ask me to read an affidavit. This was records came. "Tell us what your opinion is."

Q. You also reviewed depositions before you authored your report?

A. No.

Q. So you reviewed absolutely no depositions in this case?

A. Not before I wrote the report. I don't think so.

Q. Okay.

A. That's my recollection. It was -- these opinions were generated from the medical records and the medical records alone.

Q. All right. Do you believe that there would have been any information contained in Dr. Kessler's deposition which you would have wanted to know before you authored your expert report?

A. No, I don't think so. The only thing that I really was interested, he verified something that as I read the records I sort of read between the lines and thought that some of his comments meant.

Page 26

MS. SEACRIST: He has read depositions since then. They're here. I want you to know that.
MR. MARGOLIS: I understand that.
Q. I'm sorry, doctor. You had indicated that Dr. Kessler verified something that you believed --
A. Right. When I read through his notes, it was my impression that what he was concerned about was an acute mesenteric problem, that he didn't think that was the situation, and that is what I took home from the records, and he verified that in his deposition, that that's what he was concerned about at the time. He did not feel that's what Mrs. Keiter had.
Q. So it's your testimony that by virtue of your review of the medical records in this case, prior to reading the deposition of Dr. Kessler, that you believed Dr. Kessler by virtue of the medical records was concerned about acute mesenteric ischemia.
A. Correct.
Q. Okay. Can you point to me any medical record that supports that opinion on your behalf?
A. You'll have to define that a little better.
Q. Sure, sure.
You indicated that before you authored your report in this case -- and let me back up here. You understood when you authored your report that it was

Page 27

going to be relied upon by others; correct?
A. Correct.
Q. And you take your responsibility as a medical expert in these cases, I'm sure, very seriously; correct?
A. Correct.
Q. And you want to be as accurate and objective as you can; correct?
A. Correct.
Q. And you will agree with me that the accuracy of the opinions that you arrive at is to a certain extent dependent upon the completeness of the information that you receive.
A. Correct.
Q. It's my understanding, and tell me if I'm wrong because I'm always usually the least intelligent person in the room on these things, that you were able to discern from review of the medical chart of Hillcrest Hospital that Dr. Kessler was concerned about the patient having acute mesenteric ischemia; correct?
A. That was my assumption, yes.
Q. And that you knew that to be so prior to you reviewing Dr. Kessler's deposition.
A. No, I didn't know that to be so. I assumed

Page 28

that to be so.
Q. Okay.
A. And his deposition helped solidify my assumption that that's what he thought.
Q. Were there any other assumptions that you made in this case?
A. I wouldn't remember.
Q. Okay. Would you please refer to me -- to the medical records in the Hillcrest chart that support your opinion that Dr. Kessler had a concern about this patient having acute mesenteric ischemia.
A. I don't think there's any objective evidence in that chart one way or the other. That's why it was an assumption. In his first consultation he makes mention that he doubts this is mesenteric ischemia. A patient comes through the emergency room with this kind of presentation, it's usually the thinking of the physicians involved whether this is an acute process. That's where that assumption came from.
Q. Okay. And then when you read Dr. Kessler's deposition after you wrote your report, Dr. Kessler testified that it was his concern, at least in the first 24 to 36 hours of Mrs. Kessler's hospitalization from his initial consult, that he had a concern that she had acute mesenteric ischemia.

Page 29

A. Correct.
Q. Okay. Now --
A. Let me back up for a second. No, it wasn't that he had a concern. It was part of his differential diagnosis, and he didn't think that's what she had.
Q. And I'm not going to -- and I want to be respectful to you throughout as you have been to me. Didn't Dr. Kessler testify in his deposition that he was concerned for the first 24 or 36 hours that she may have acute mesenteric ischemia? Weren't those his words --
MS. SEACRIST: I object.
THE WITNESS: I don't remember --
BY MR. MARGOLIS:
Q. -- per your memory?
A. I don't remember exactly what those words were. I think he had -- his deposition is very clear that he formulated a differential diagnosis from what he learned from a history and physical exam, what he learned from what had gone on previously at University Hospital, and that one of the items in that differential diagnosis would be acute mesenteric ischemia. In his mind he had doubted that's what she had.

Q. Do you make any distinction, sir, between him being concerned that she may have acute mesenteric ischemia versus acute mesenteric ischemia being part of her differential diagnosis?
A. Sure, I do.
Q. What distinction do you make, sir?
A. Well, he's concerned that she's got a problem, but it's way down on his list of a differential diagnosis. And I don't want to put words in Fred Kessler's mouth, but I'm sure that he's no different than I am when I do my differential diagnosis for a patient's problems. I rank them in order of what I think is more realistic that they have and don't have, and his statement that he doubts that she had mesenteric ischemia puts it almost at the bottom of the list if that's even there. Now, semantics of the word "concerned," is it concern on a one-to-ten scale of ten or one? It's still in his differential diagnosis, but he doesn't think that's what she's got. So I'm having troubles with the word "concerned."
Q. I asked you and you said you would make a distinction between if Dr. Kessler was concerned that she had acute mesenteric ischemia versus acute mesenteric ischemia being one of the list of her

differential diagnosis. That's what you testified to.
A. Sure.
Q. I'm trying to learn from you what is the distinction as to whether he is concerned that she has acute mesenteric ischemia versus it being one on the list of the differential.
MS. SEACRIST: Objection. Asked and answered.
THE WITNESS: I don't think there's a difference. I don't think you can differentiate between them. He's concerned he's got a sick patient and he doesn't know what's wrong with her, and he's trying to sort that out. I think he's concerned about, if you use those definitions, he's concerned that she's got disease processes he hasn't even thought of yet. So I mean I think the word "concern" when you're talking about a physician is a difficult word to define.
BY MR. MARGOLIS:
Q. And I'm not trying to barb with you. I'm just trying to understand -- the words that came out of your mouth was that you drew a distinction whether he was concerned about acute mesenteric ischemia versus it being one on the list of the differential. I'm trying to understand what that distinction is.

That's my question.
A. That distinction --
MS. SEACRIST: Objection. Asked and answered.
THE WITNESS: Those distinctions are essentially degrees of concern --
MR. MARGOLIS: Okay.
THE WITNESS: -- I think is probably what you and I are battering back and forth about. It's the semantics of the word of "concern." There's no adjective to describe his level of concern, I think is what we're talking about.
BY MR. MARGOLIS:
Q. Okay. Now, doctor, when you were first contacted in this case, you did not -- strike that.
Before you wrote your report, you did not have the benefit of the actual film of the 8-13-01 ultrasound that was performed, did you?
A. I have never had the film.
Q. Okay.
A. I have had the Xerox copy.
Q. The report?
A. No. I had Xerox copies of the pictures of the tracings that were obtained.
Q. But not the entire film of the study.

A. You have to define what "the entire film of the study" was. What I have are pictures of the films, the hard-copy films that were made by the technologist doing the study at that time.
Q. You haven't reviewed a film of the ultrasound in real time?
A. You're talking about a tape?
Q. Yes, sir.
A. No. That's what we tried to do this morning.
Q. Fair enough.
What else is in your file that you have not produced thus far relative to my questioning? Anything? Is there anything else in your file we haven't gone over yet?
A. You mean my personal file in this case.
Q. Your file in this case, yes, sir.
A. There's not much of anything in the file other than these notes that we talked about --
Q. Okay.
A. -- the affidavit that I authored, and the reason I have this correspondence is because it came to the office yesterday about us being here today.
Q. All right. Can I see that correspondence?
A. Sure.
Q. And while I'm looking at this, would you be

Page 34

kind enough to identify the depositions that you have reviewed.
A. Sure. I can do that.
I don't know if they're in any particular order here.
The depositions of Dr. Jeffrey Katz; Dr. Monica Ray; Dr. Eric Shapiro; Dr. Joel Feinstein; Dr. Fred Kessler; Dr. Jay Schapira, S-c-h-a-p-i-r-a; Dr. Jeffrey Brown; Dr. Louis Adler; and Dr. Patrick Dean.
Q. And all of these depositions you would have reviewed after you wrote your report.
A. Yes.
Q. Did you review the deposition of Dr. Rockne?
A. No. I don't know who Dr. Rockne is.
Q. Were you provided with the affidavit of a Ms. Bouser -- Bower?
MS. SEACRIST: I can answer that. No, he was not.
THE WITNESS: I don't remember.
BY MR. MARGOLIS:
Q. Were you ever provided with the deposition of a Dr. Pikorny?
A. I don't remember.
Q. It's not here. I'm assuming you weren't

Page 35

provided.
A. I don't -- yeah, I don't think so.
Q. Okay.
Did you ever review the deposition of Mrs. Keiter's husband?
A. No.
MS. SEACRIST: I do intend to send that to him before trial. That was an omission on my part. I will send that to him.
BY MR. MARGOLIS:
Q. Were you provided with copies of plaintiff's expert witness reports in this case?
A. You know, as you were asking that question, I believe I was, and I'm trying to for the life of me remember. It was quite some time ago. I think there were two of them.
Q. A lot more than two.
A. I'm sure -- I could figure there were a lot more from reading depositions, but I only remember, I think, seeing two, and I'll be doggone if I can remember who they were.
Q. Okay. Do you have a separate business that you utilize for your expert witness review?
A. Meaning?
Q. Well, I don't know. Some --

Page 36

A. Is it independent of my clinical business here in the office?
Q. Yes, sir.
A. Yes.
Q. And is it incorporated?
A. No.
Q. What is the name of the business that utilizes -- that you use for your medical/legal reviews?
A. There's no name for it.
Q. Okay. It's just --
A. Just it is.
Q. Okay. And do you have a separate federal tax I.D. number for that business?
A. No.
Q. Okay.
A. We don't want to make it that complicated.
Q. What percentage of your total income does the medical/legal work account for?
MS. SEACRIST: Objection.
You can answer.
THE WITNESS: Yeah, probably about ten percent. It varies from two to three percent some years to 10 to 15 percent in other years.
BY MR. MARGOLIS:

Page 37

Q. Have you spoken with anybody about the work you have done in this case other than defense counsel?
A. No.
Q. How many times have you met with defense counsel?
MS. SEACRIST: Objection. I think that's work product.
MR. MARGOLIS: I'm not asking him what the two of you discussed. I'm asking him how many times he met with you. And your objection is noted, but I respectfully would request that you permit him to answer that.
MS. SEACRIST: The number of personal meetings you're asking about; right?
MR. MARGOLIS: Yeah.
MS. SEACRIST: Okay. Objection.
You can answer.
THE WITNESS: Twice.
BY MR. MARGOLIS:
Q. And how many times have you spoken with defense counsel?
A. Oh, boy. I don't know the answer to that one.
MS. SEACRIST: Object as well.
THE WITNESS: More than twice.

MR. MARGOLIS: Okay.
Q. Would there be two meetings that you met with Mrs. Seacrist prior to today, or does today involved the second meeting?
A. Today is included.
Q. Today is included.
Have you received correspondence from anyone other than Mrs. Seacrist's office?
A. No.
Q. Have you had any discussions with Dr. Fred Kessler?
A. No.
Q. Have you reviewed any summary of the medical records that have been prepared by anyone else?
A. No.
Q. When you wrote your report, were you comfortable that you had been supplied with all the information necessary for the opinions that you articulated?
A. Yes.
Q. Please tell me how you define "standard of care."
A. Standard of care is the usual treatment that any prudent physician would provide. Custom -- that's -- what's the word? Consistent with what is

the accepted practice in the community of their specialty.
Q. Do you know if you were the only vascular surgeon that was contacted by defense counsel to give an opinion in this case?
A. I have no idea.
Q. Have you ever been sued for medical malpractice?
A. Twice.
Q. Have any payments ever been made out on your behalf?
A. No.
MS. SEACRIST: Objection. Continuing objection, please.
BY MR. MARGOLIS:
Q. Did any cases go to trial against you?
A. No.
Q. Were there instances where you were sued and the cases were subsequently dismissed?
A. Yes.
Q. Are there any pending cases?
A. No. At least not that I know of.
Q. Are you familiar with a physician by the name of Dr. Louis Adler?
A. Only through the depositions.

Q. Did you know him by reputation at all? He used to practice at Cedars-Sinai for many years.
A. It's a long ways from here. I don't have a clue who he is. Not to hurt his feelings, but he doesn't know me either, I'm sure.
Q. If I wanted to -- if I was a resident under your tutelage in vascular surgery and you wanted to refer me to a textbook on vascular surgery, would you please tell me what textbooks you would refer me to?
A. Well, it's pretty standard that the major textbook that people read in vascular surgery is Rutherford's Textbook on Vascular Surgery I think only because it's the largest, the heaviest, but it's the one that seems to be revised every couple three years. It's stood the test of time.
Q. Have any items been removed from your file today by you or anyone else?
A. No.
Q. Doctor, what I'm going to do is kind of headnote the subject areas I'm going to be talking about as we get into the medicine a little bit to hopefully streamline things.
Would you agree with me that atherosclerotic disease is also known by laymen as hardening of the arteries?

A. Yes.
Q. Would you agree with me that atherosclerotic disease of the mesenteric vasculature is a chronic, progressive condition?
A. No, I probably wouldn't.
Q. Tell me why.
A. In some patients it would be. In some people they just have atherosclerosis and it's not progressive. It's the word "progressive" that I don't agree with.
Q. What majority -- what percentage of patients who have atherosclerotic disease of their mesenteric vasculature would that disease be not progressive?
A. I don't think you can answer that because you don't know the denominator of that number, so I mean you would only be speculating. We just know from vascular pathology that some people's disease doesn't progress. Atherosclerotic arterial occlusive disease is a disease of getting older. Not everybody gets it because they smoke. Not everybody gets it because their cholesterol level is too high or they're diabetic. They get it because they're older. And we, unfortunately, as physicians have a very skewed view of what this disease does because we don't see the ones that progress. We don't see what happens with

Page 42

the other people out there.
Q. Based upon your experience as a vascular surgeon, what percentage of the patients that have atherosclerotic disease is progressive versus nonprogressive in nature?
A. In the mesenteric arteries or in all comers?
Q. Let's say all comers, and then we'll go to the mesenteric.
MS. SEACRIST: Objection.
THE WITNESS: Again, I'm going to have to tone that down a little bit.
In diabetic patients it tends to be a little more progressive than the general population. It doesn't tend to be as progressive. Probably the literature would argue this number, anywhere from 50 percent of the people it would be progressive to some patient papers would say only 15 to 20 percent would it be progressive.
BY MR. MARGOLIS:
Q. What about in the mesenteric vasculature?
A. I don't know that anybody has been able to do a natural history study of that disease mostly because the disease is not that common, and only within the last ten to 15 years have we had any kind of means to study these people outside of invasive testing with

Page 43

arteriography. I think if I had to speculate on it, I have an awful lot of people that I see that have vascular problems in their mesenteric arteries that never come to needing any kind of surgical procedure done, and I think that's the only way one can say are they progressive or not because we do not have testing that's accurate enough to follow those blockages in those arteries enough to tell you, you know, is it going from 50 to 60, 60 to 70, 70 to 80 percent.
Q. Was Mrs. Keiter's -- first thing, did Mrs. Keiter have atherosclerosis in her mesenteric arteries?
A. I think her autopsy and pathology slides clearly showed that she had atherosclerotic disease.
Q. Do you have an opinion as to whether her atherosclerotic disease in the mesenteric arteries was progressive in nature?
A. Well, it had to have been progressive to reach the point that it did.
Q. So we can agree that the atherosclerotic disease in Mrs. Keiter's mesenteric arteries was progressive in nature; correct?
A. I have a little problem with the word "progressive." We know it progressed. We don't know whether -- the word "progressive" -- "progressing" to

Page 44

me, the way I interpret that, is a steady, chronic process, and we know that atherosclerotic disease may not progress in a steady, chronic process. Sometimes it progresses in a very rapid progress -- process. We don't know what happened to Mrs. Keiter.
Q. Do you have an opinion as to whether the atherosclerotic disease in Mrs. Keiter's mesenteric arteries was a chronic, long-standing condition?
A. Well, I do have an opinion, and that's why you're here today.
Her autopsy showed something somewhat unusual, what they call Dunbar syndrome, and I must admit I have never heard the word "Dunbar syndrome," but I have seen patients and read about patients that have entrapment of their celiac axis, a-x-i-s, with the arcuate ligament of the diaphragm.
Arcuate.
Q. A-r-c- --
A. Go ahead. You're doing good.
Q. A-r-c-u-a-t-e?
A. Yes.
And I have actually seen two patients through my years that also had a high takeoff of this superior mesenteric artery and were trapped. That situation is a little different. I found Mrs. Keiter's pathology

Page 45

very interesting because clearly this is a process that I find very interesting anyway, having spent all the years and academics studying it. From a progressive nature, if indeed she has arcuate ligament syndrome which has trapped both of those arteries, then over time she would have developed a chronic fibrotic process of narrowing of the arteries. We know that that happens from the repetitive motion of the diaphragm moving up and down the arcuate ligament entrapping the artery. We see it much more common with celiac axis compression, but there's no reason to think that the same thing wouldn't happen with the superior mesenteric artery.
My opinion is that indeed occurred, but I think she also developed an atherosclerotic process, whether it was related to the chronic injury of the artery by the arcuate ligament or whether she developed that de novo totally separate and would have felt that anyway if she didn't have the anatomic process.
Would you do me a favor. When I'm talking, let me finish my statement, and then you can talk to him. It's very bothersome.
MR. FINELLI: I apologize.
THE WITNESS: It's okay. I understand.

Page 46

MR. FINELLI: I wasn't familiar with --
THE WITNESS: It is. But it really disturbs what I'm trying to say.
MR. FINELLI: I apologize.
THE WITNESS: It's fine to talk to him. I mean it's your right.
MS. SEACRIST: You were talking about atherosclerotic disease, whether it was a separate process or a related process to the celiac axis.
THE WITNESS: In Mrs. Keiter there's no way we're ever going to know, but it's pretty clear that she had atherosclerotic disease. Pathology slides showed that, and there's nothing more definitive than an autopsy and pathology slides.
BY MR. MARGOLIS:
Q. We're going to get to the celiac axis compression syndrome issues.
A. Right.
Q. I'm trying to at this point to focus in on your opinions based upon your review of the literature, the medical records, your skill and expertise, your education.
We know that at the time of her death she had severe atherosclerotic disease of her celiac, SMA, and IMA arteries. Do you agree with that?

Page 47

A. I would agree with that.
Q. All right. Would you believe that the atherosclerotic disease in the mesenteric arteries -- and can we have an understanding between us when I use the word "mesenteric arteries" I'm meaning celiac, SMA, and IMA?
A. Sure.
Q. Okay. Can we agree that the atherosclerotic disease that she had at her autopsy in her mesenteric arteries which was severe was a long-standing, chronic disease process?
A. Before I answer that, let me make one statement. Then I'll answer your question.
The disease process of the celiac axis in the superior mesenteric arteries is a different disease process than the inferior mesenteric arteries, so you can't group the three of them together.
Q. Fair enough.
A. But in my opinion, she had atherosclerotic disease for some time, long standing. I don't know that I can defined "long standing." We do know that when she had her CT scan done December of 2001, which is the one I looked at, she had some calcifications in her aorta. Consequently, we know that she's got atherosclerotic disease at that time. Whether she has

Page 48

got long-standing atherosclerotic disease in her celiac and superior mesenteric artery is harder to tell, in my opinion.
Q. Were there any findings in the December 7, '01, CT scan of atherosclerotic -- strike that.
Were there any findings in the December 7 abdominal CT scan of Mrs. Keiter that were abnormal findings of her celiac artery?
A. Boy, that's a bone of contention. You've got several experts that say there were. I looked at that CT, and as I looked at it and read through the depositions, it's very clear that the newer studies of CTAs have clearly influenced how we look at plain CT scans. I can look at those and convince myself retrospectively that there's a problem with the superior mesenteric artery and questionably the origin of the celiac axis, and I use the word "questionably" -- the celiac axis is a lot harder to identify. Over all the years that we've looked at CT scans in these people, because we've gotten a lot of CT scans, we have never been able to say definitively from a plain, routine CT scan that a patient had a definitive stenosis or occlusion with the superior mesenteric or celiac axis. The CTA has changed that dramatically. There's no question of that.

Page 49

But in retrospect, looking at that, I can sort of convince myself that there might have well been some problems with those arteries, but it's not clear-cut to me.
Q. So my question is: based upon the findings of the CT scan of the SMA and the celiac -- and for purposes of accuracy I'm going to split them off. Let's first talk about the SMA.
Based upon the autopsy findings, based upon your review of the medical records, and based upon the 12-7-01 CT scan, is it your opinion that there was an atherosclerosis that Mrs. Keiter had in the SMA in December of '01? And also you can include the autopsy notes that you reviewed.
A. I think she had some atherosclerosis in those arteries. I don't think they were normal.
Q. When you say "those arteries," we're talking about the celiac --
A. The mesenteric, celiac.
Q. Okay. You would agree with me, then, would you not, that if an ultrasound would have been -- first thing, I've read your articles. You've done a lot of research and writing on ultrasound and study of mesenteric vasculature, have you not?
A. I have.

Page 50

Q. You would agree with me that an ultrasound is a pretty accurate test for screening purposes of the mesenteric vasculature; correct?
A. I never thought about it as a screening test. Yes, it's very accurate.
Q. Okay. And let's exclude the word I used of a screening test. Is it your opinion that an abdominal ultrasound is an accurate diagnostic test to identify abnormalities of the mesenteric arteries?
A. I don't believe that an abdominal ultrasound is, no. I believe a duplex scan is. There's a major distinction between the two.
Q. Okay. Is a duplex scan an accurate test at diagnosing abnormalities of the mesenteric arteries?
A. Yes.
Q. Are there any risks to the performance of a duplex scan?
A. None.
Q. What is the sensitivity of a duplex scan in diagnosing abnormalities of the mesenteric arteries?
A. I would say it's probably in the range of 95 percent.
Q. What is the specificity of a duplex scan in diagnosing abnormalities of the mesenteric arteries?
A. I should have read my own paper. I don't

Page 51

know that I can remember the numbers. It's over 90 percent.
Q. Now that we have identified that there was atherosclerosis present in Mrs. Keiter's celiac and SMA arteries in December of '01, are you able to offer an opinion as to the extent of the atherosclerotic disease present at that time?
A. No.
Q. When you're talking about the degree or the extent of atherosclerotic disease in mesenteric vasculature, do you grade it as mild, moderate, severe, occluded, or is it just percentages?
A. I tend to believe in percentages.
Q. Okay. Had a duplex scan been done of Mrs. Keiter's mesenteric arteries in December of '01, do you believe it would have been positive for abnormal findings of the celiac artery?
A. Yes, I do.
Q. Do you believe if a duplex scan would have been performed in December of '01, whether it would have been positive for abnormalities of the SMA in Mrs. Keiter?
A. I do. And let me explain why, because I do believe she had compression syndrome, and if the technologist was astute enough to be looking for it,

Page 52

they might have find an abnormality, but they just as easily could have found that there was normal flow through those arteries because the test of duplex scanning, when a patient has compression by the ligament, so the diaphragm -- as the diaphragm moves up and down and the aorta moves, those signals can go from being markedly abnormal to normal.
Q. The inspiration and expiration.
A. Exactly. And that is the positive nature of the test. The component of duplex scanning that a lot of people do not understand, and that's why I corrected you about abdominal ultrasound, it is not a test to so much look at the artery as it is a test to evaluate the blood flow through the artery, and the ultrasound is nothing more than looking, whereas a duplex scan looks to find the flow, to evaluate the flow, and in this situation it's very difficult to determine the degrees of atherosclerotic obstruction by looking at the plaques.
And that's why I say I think Mrs. Keiter had two processes going on here, and that's what makes it difficult to know and to predict what was going on in December and correlate with what we know happened in July.
Q. So as I understand your testimony, it is your

Page 53

opinion that Mrs. Keiter had atherosclerotic disease in December, '01, of her celiac and SMA and in addition thereto had celiac axis compression syndrome.
A. Correct.
Q. And had a duplex scan been done in December of '01, it would have diagnosed those conditions.
A. Could have, yes.
MS. SEACRIST: Objection.
THE WITNESS: I don't know that it would have, but it could have.
BY MR. MARGOLIS:
Q. Do you have an opinion as to whether it's more likely than not, because you told me earlier you don't know the amount of ASO that would have been present and that there's 95 percent specificity and sensitivity.
A. I have to ask you a question. What does "ASO" stand for?
Q. Atherosclerotic disease.
A. Okay.
Q. But I tend to always -- atherosclerosis.
A. I figured that's what you meant. We're on the same page.
More likely than not, they would not have found an abnormal duplex scan. My experience with

Page 54

looking at patients that have celiac axis compression, unless we're really astute, we will miss it because doing duplex scanning of mesenteric arteries is not the easiest of exams to do, and a lot of times you catch the artery as it passes through the field of the ultrasound, and if you happen to be looking in the particular field where the artery is open, you will miss the problems.

Q. My question, Dr. Harward, is this.
Did I pronounce the name properly?

A. Excellent.

Q. Okay.
You have testified previously, and correct me if I'm misstating anything, that it is your opinion that she did have some atherosclerotic disease in her SMA and celiac artery in December of '01; true?

A. Correct.

Q. You could not quantify for me the amount of that disease.

A. That is correct.

Q. Assuming that the amount of the atherosclerotic disease in her SMA in December of '01 was such that the artery was 70 percent narrowed, would that have been picked up by a duplex scan?

A. Should have been, yes.

Page 55

Q. Assuming that her atherosclerotic disease in her celiac in December of '01 was such that that artery was 70 percent narrowed, would that have been picked up by a duplex scan?

MS. SEACRIST: Objection to the hypothetical.
Go ahead.

THE WITNESS: I believe it would have been.

BY MR. MARGOLIS:

Q. Doctor, I want you to assume for a moment that the 8-13-01 duplex scan -- and no fault of your own. You have not had the opportunity to see that study. We have tried to make it available today, but because of technical issues, we could not. Assume that the PSV of the -- I want to get this right. I want you to assume that the 8-13-01 study of the celiac artery had a PSV of 327 and an EDV of 111. Assuming that to be the case, what does that tell you?

MS. SEACRIST: I'm going to object to any questions about the August, 2001, ultrasound on the basis that this doctor has not had an opportunity to review it, and now you're taking information and asking him to assume certain things. So I'm going to object to any line of questioning on this ultrasound until he has an opportunity to review the film. I think it's unfair. I'm not going to allow him to

Page 56

answer questions about the ultrasound. I think that was our agreement coming in.

MR. MARGOLIS: Yeah, let me ask the question this way. You're right. You're right. We had discussed that, and I made it applicable to her, and I should not have.

Q. What does it indicate to you as a vascular surgeon who is very well written on duplex ultrasonography of the mesenteric vasculature if a celiac on a duplex scan has a PSV of 327 and an EDV of 111, not specific to this patient, just in general?

MS. SEACRIST: Same objection. If he can answer that in a vacuum, I'll let him answer that question.

THE WITNESS: It's clearly an abnormal peak systolic velocity.

BY MR. MARGOLIS:

Q. Where is the cutoff? 250?

A. It depends on the machine, the laboratory, the criteria used by each lab. But no matter which machine you use, 327 is abnormal.

Q. Okay.

A. And all I can use is the experience we have in our laboratory, and we use a Siemen's machine, and it probably would represent about a 70 percent

Page 57

blockage.

Q. Okay.
Let me try to take the dive this way before I get my notes on celiac axis compression.
Give me the basis, please, of all of the factors in this case that support your opinion that Mrs. Keiter suffered from celiac axis compression.

A. I think there's really only one basis, and you have an autopsy report, which is the definitive test, that that's what the pathologist found.

Q. Okay. And the same question applicable to the SMA?

A. Same answer.

Q. Okay. Do you agree with the statement that celiac axis compression is a concept that is in dispute in medicine? I'm probably not using the best word. I'm just --

A. I understand where you're coming from, though.

Q. A controversial --

A. Yeah, you know, I'm going to answer that yes, I understand that there are people out there that don't believe that entity exists, but they're usually people that don't have enough experience or seen enough of these patients. There are an awful lot of

Page 58

patients that come that have this anatomic problem, but are totally asymptomatic from it, but there are also a smaller percentage of patients that come that do have this anatomical problem that have their own certain set of clinical problems and presentation that when you relieve the obstruction to the celiac axis, the problem goes away. And it all stems from the collateral network of circulation and communications between all three of the various blood vessels because not everyone has a wonderfully developed collateral network.

Q. Okay. Do you agree with me that there is a distinction between a high origin of the takeoff of a celiac and celiac axis syndrome?

MS. SEACRIST: Can you repeat that? I'm sorry.

THE WITNESS: I'm not sure I understand your question.

BY MR. MARGOLIS:

Q. Sure. I guess my question is simply because the celiac has a high takeoff from the aorta, that does not in and of itself meet the criteria for Dunbar syndrome, celiac axis syndrome, median arcuate ligament syndrome, does it?

A. The answer is probably -- and every different

Page 59

physician has got a different interpretation of that, so I'll give you my interpretation. I think it will answer your question.

The anatomic presence of the problem, some people would say that means they have an arcuate ligament syndrome. Anecdotally, just like people that have reverse flow in their vertebral artery because they have an obstruction to their subclavian artery, they have subclavian steal syndrome. But do they have clinical manifestations of that anatomical problem, and the answer to your question is there are a lot of people that have the anatomical problem that never present with the clinical presentation, but -- and that's why there's a dispute out there because some physicians do not believe that this is a clinical entity. It's an anatomical entity. But there are a small number of patients out there who definitely present with clinical symptoms from celiac axis compression syndrome and/or Dunbar syndrome.

Q. In order for Dunbar/celiac axis syndrome to exist, doesn't there actually have to be compression of the celiac artery by the arcuate ligament?

A. By definition, that is the disease.

Q. Okay.

A. You can't have either the anatomic -- you

Page 60

can't have the anatomic abnormality without the compression. You definitely can't have the clinical presentation without the compression.

Q. And isn't celiac axis compression syndrome a condition which will be picked up by the lateral view of angiography?

A. It can be.

Q. In this case did the angiography of July 7, '02, have a finding of celiac axis compression syndrome?

MS. SEACRIST: Objection. We don't have that film. That's the nature of my objection.

MR. MARGOLIS: Okay. We have the report. You reviewed the report.

MS. SEACRIST: Someone else's interpretation.

THE WITNESS: If the disease has progressed to the point that the artery is completely occluded, you can't make that diagnosis.

BY MR. MARGOLIS:

Q. Okay. In your report you make reference to the fact that -- let me get the report so I'm not misquoting.

Doc, if while I'm looking for your report language, if you would be kind enough to pull out the autopsy.

Page 61

MS. SEACRIST: I can pull that out pretty easily.

THE WITNESS: It's not hard to find.

MS. SEACRIST: I think it's going to be in Volume 4.

THE WITNESS: Is that where it is?

MS. SEACRIST: Um-hum.

THE WITNESS: It might be there.

MS. SEACRIST: This is 5 and 2.

THE WITNESS: This is 4.

MS. SEACRIST: Okay.

THE WITNESS: I got to keep from pulling this cord off the table here. That's all right.

Okay. I have it.

BY MR. MARGOLIS:

Q. Okay. On page 5 of your report I'm going to read you a sentence that is the last sentence of the last paragraph.

"Rather than the usual atherosclerotic occlusive disease [sic] seen in patients with this disease process, it was noted that both arteries were entrapped by the arcuate ligament of the diaphragm."

What do you mean when you -- in that context

Page 62

does "entrap" also mean "compressed"?
A. Well, yes. They have to be entrapped to be compressed.
Q. Okay. So tell me how -- in that context how you use the word "entrapped." That there's some physical touching, if you will, of the arcuate ligament on the celiac --
A. Yes.
Q. -- artery?
Okay. Would you please show me in the autopsy report where there is a physical finding that the arcuate ligament was actually entrapping the celiac artery.
And Kenny, if you would like, we can go off the record so the doc can take his time and look at it.
THE VIDEOGRAPHER: Sure.
The time now is 11:29. We're going off the record.
(Pause in proceedings.)
THE VIDEOGRAPHER: The time now is 11:31. We're back on the record.
BY MR. MARGOLIS:
Q. Doctor, the question that is pending was would you please show me in the autopsy report where

Page 63

there is a physical finding that the arcuate ligament was actually entrapping the celiac artery.
A. While we were off camera there, I have sat here and looked through the autopsy report, and there's nowhere does it give the actual term of "entrapment." I believe that I'm probably interpreting what our pathologist has said in his -- in his comments of the autopsy, stating that the patient had high takeoff of both celiac axis and superior mesenteric artery and that he found what was called Dunbar syndrome, which is basically by definition entrapment of these arteries by the arcuate ligament of the diaphragm.
Q. And if I can interrupt you a moment, let's look at exactly what the pathologist says. Are you reading the "Summary" and "Comment"?
A. I wasn't reading anything actually at the time.
Q. I think you answered my question by saying he found this Dunbar syndrome, which is defined as entrapment of the celiac artery by the arcuate ligament. I guess what I'm just trying to find out is it seems to me that the pathologist is talking about this high origin and then goes on to a discussion of the medical literature and talks about Dunbar syndrome

Page 64

and then gives a definition "This is when the high arteries are compressed by the median arcuate ligament of the diaphragm." But at no point in the autopsy does he actually make the gross physical finding that there is compression of the celiac axis by the median arcuate ligament. Would you agree with that?
A. No. I think that's your interpretation. A lot of times things are found at autopsy, and he's not describing word for word what he found. Unfortunately, we don't have photographs here. You're right. I would like to have a very detailed description of as he cut the diaphragm and the arcuate ligament what happened, but I don't expect to see that from a pathologist.
Q. Would it totally change your opinion that this woman suffered from celiac axis compression syndrome if the pathologist were to say that he did not find any compression of the celiac artery by the arcuate ligament of the diaphragm?
MS. SEACRIST: Objection.
BY MR. MARGOLIS:
Q. You may answer.
A. You mean if he comes along and tells us that he lied in his report here?
Q. No. If he comes along and says that the way

Page 65

you, sir, are interpreting his report is not accurate.
MS. SEACRIST: Objection.
BY MR. MARGOLIS:
Q. That's another possibility other than him lying, isn't it?
A. No, I don't think so. When he describes compression-type syndrome problems, that's what it is. It's a black-and-white issue. It's not a "maybe it was." It's like being a little bit pregnant. Either you are or you aren't.
Q. My question, sir, is this. If Dr. Hoffman were to be deposed in this case and Dr. Hoffman were to testify under oath that he did not find compression of the celiac artery at autopsy by the arcuate ligament, would that change your opinion that this patient suffered from celiac axis compression syndrome?
MS. SEACRIST: Objection.
THE WITNESS: Yeah, I guess I would probably have to say it would because that would mean that the patient had normal anatomy. If that's what you're telling me, that the patient had absolutely stone-cold, normal anatomy, then that would mean that that autopsy report would read totally different than it does.

Page 66

BY MR. MARGOLIS:
Q. And if that were the case, sir, and if the August ultrasound shows a 70 percent occlusion of the celiac artery, you would then attribute that stenosis of the celiac to atherosclerotic disease?
MS. SEACRIST: Objection to the foundation of the hypotheticals.
BY MR. MARGOLIS:
Q. You may answer.
A. I think you would have to attribute it to the atherosclerotic disease.
Q. Fair enough.
Would you please go to the "Abdomen" portion of the autopsy under the "Gross Description."
A. What page?
Q. I think, sir, that's on --
MS. SEACRIST: Page 4.
MR. MARGOLIS: It's -- yeah, page 4.
MS. SEACRIST: Under "Internal Examination."
THE WITNESS: Okay.
BY MR. MARGOLIS:
Q. Under the portion of it that says "Abdomen," wouldn't that be the portion that you would expect there to be a description if there was actually arcuate ligament compression of the celiac

Page 67

artery?
MS. SEACRIST: I'm going to object. He's not a pathologist. He didn't write the report.
THE WITNESS: I don't know how these reports are generated. I don't know where you would put it. That's up to the pathologist.
BY MR. MARGOLIS:
Q. Have you reviewed autopsy reports prior to today?
A. Not very often. Probably ten in my life.
Q. Now, you reviewed the op notes in this case of Dr. Pinault and Dr. Shuck; correct?
A. I did.
Q. Anywhere in the op notes in the physical findings do they discuss a finding of arcuate ligament compressing the celiac --
A. They didn't look.
Q. -- artery?
Is it --
A. There's no description of it because they didn't look.
Q. Okay. Let's pull the op notes. First --
A. I don't need to pull the op notes. I read the op notes. There's no reason to even go up there and look.

Page 68

Q. Okay. Well, I need to pull them because I don't remember.
A. Okay.
Q. Is it your testimony, sir, that the surgical procedure performed by Dr. Pinault, the exploratory laparotomy right iliac artery to SMA retrograde bypass with reversed saphenous vein, that in the performance of that surgery he would not have dissected the area where the median arcuate ligament comes over the celiac artery?
A. Not even close.
Q. Okay. Was there a point in that procedure where after the dissection of the location of the celiac artery that he checked to see a blood flow in that area with a -- intraoperatively with a Doppler ultrasound, I think?
A. No, he didn't. There's no description in his op report listening to the celiac axis.
Q. What about the SMA?
A. There's no description of listening to the SMA. He feels for a pulse in the root of the mesentery.
Q. Okay. If the celiac artery were compressed by the arcuate ligament, with the procedure that Dr. Pinault did, would the dissection cause the

Page 69

compression if it existed to be remedied?
A. No.
Q. Why not?
A. He's about three inches away from it.
Q. What about the same question applicable, sir, to the SMA?
A. No.
Q. Why not?
A. It's about three inches away from the diaphragm.
Q. Okay. So as I understand your testimony, there is nothing in the op notes of Dr. Pinault or Dr. Shuck which would shed any light on whether or not she suffered from celiac axis compression syndrome.
A. Nothing.
Q. Okay. Same question, sir, applicable to compression of the SMA.
A. There's no way from the dissections that they did -- the only thing that Dr. Shuck does describe is going into the lesser sac and feeling for the superior mesenteric artery, which is, in my opinion, impossible to feel to the lesser sac without moving the pancreas away from the artery, and it's absolutely the wrong place to feel for the artery. Dr. Pinault was quite right into feeling for the artery in the root of the

Page 70

mesentery. Celiac axis compression syndrome is up under the diaphragm, and for them to have even thought about it at the time would be remarkable. And the only reason that one would even consider being up in that region is if one was going to do a bypass off the superceliac aorta, which would not be indicated in this situation. I mean the operation that Dr. Pinault did was an appropriate operation for the situation that he found the patient in.

Q. Okay. So the total evidence that supports your opinion of celiac compression or SMA compression by the median arcuate ligament in this case would be the autopsy.

A. Correct.

Q. Okay. Unfortunately, despite the best efforts of Mrs. Seacrist and myself and Dan, we have been unable to have the July 7 angiography film reproduced, so we're stuck with just going with the dictated report.

A. I understand.

Q. You have had the opportunity to review that report?

A. I understand that, and yes, I did.

Q. Are there any findings on that report which are confirmatory of celiac axis compression syndrome?

Page 71

A. None.

Q. What is the percentage of patients that have both the celiac artery and the SMA compressed by the median arcuate ligament? Do you know?

A. No. It's very rare.

Q. Did Mrs. Keiter suffer from mesenteric ischemia in December of '01 --

MS. SEACRIST: Objection.

BY MR. MARGOLIS:

Q. -- based upon your skill, your expertise, and all the material you have had to review?

A. I think if we retrospectively review this case, I think she probably did.

Q. Okay. And would that be secondary to disease in the celiac and SMA?

MS. SEACRIST: Objection.

BY MR. MARGOLIS:

Q. Let me ask the question this way.

Which of the mesentery arteries would have been responsible for her suffering mesenteric ischemia in December of '01?

MS. SEACRIST: Objection.

THE WITNESS: Well, most commonly it's all three. As I put this together, Mrs. Keiter had a very unusual presentation of this disease process, but it

Page 72

is not uncommon that two of the three arteries are severely diseased, and as the third artery becomes more diseased, they get in trouble because the collateral connections between the three arteries are such that it's not uncommon to see an arteriogram for any reason that total occlusion of the artery -- of the celiac axis and the superior mesentery artery are present, the patient is totally asymptomatic.

BY MR. MARGOLIS:

Q. Because of the collateral?

A. But you see a large, meandering artery connecting between the left colic, and they're basically living off of that artery.

Q. Is that the Circle of Drummond?

A. No. It's the Arc of Riolan, R-i-o-l-a-n. And as the disease process progresses, whether it be rapidly, usually that's what happens. Something acutely occurs or rapidly changes that gets them in trouble.

Q. Okay. So as I understand it, it's your opinion that retrospectively Mrs. Keiter had mesenteric ischemia in December of '01 secondary to disease of the celiac, SMA, and IMA to some extent.

A. Correct.

MS. SEACRIST: Objection.

Page 73

BY MR. MARGOLIS:

Q. If an MRA would have been done in December of '01, do you have an opinion as to whether or not it would have been normal or abnormal with results to findings of the mesenteric arteries?

A. You know, I don't know quite what an MRA would have shown. I don't particularly like MRA. They're small. They don't have very good resolution. Some places they're excellent. My hospital, they're terrible. I was very not surprised at all when I read Dr. Kessler's comments that they had MRA at their hospital, but they just weren't used very often. They're very specific to institution to institution. So I mean I don't know if I can tell you whether they would have shown something proper or not. I think an arteriogram might have shown something.

Q. And at no fault of yours, Dr. Harward, you were not aware because defense counsel chose not to give you this information, but a deposition was taken of Dr. Rockne, who is the chief of interventional radiology at Hillcrest Hospital, and he has testified that they had a very high-quality MRA scanner; that it had been in use at the hospital since 1998; they were doing numerous abdominal studies of the mesenteric arteries with very good results. And I understand,

Page 74

sir, you didn't have that information, and --
A. Well, whether I had that information or not, having a high-quality scanner is not the important aspect. It's whether it can be used clinically. We have a very high-quality scanner at our hospital. We just don't have radiologists who are very skilled at providing the information we need. We have had more false positives and false negatives of our scans that we end up arteriogramming everybody that gets an MRA by one of our good referring physicians. So I don't know that that tells me a whole lot about whether they had good MRA results or not.
Q. I want you to assume, sir, in this case Dr. Rockne has testified and it has not been controverted by anyone that the quality of his interpretation of abdominal MRAs was very good.
A. Might have been.
Q. Does that at all change your opinion as to what an MRA would have demonstrated in December of '01 had one been done of the mesenteric vasculature of Mrs. Keiter --
MS. SEACRIST: Objection.
BY MR. MARGOLIS:
Q. -- at Hillcrest Hospital?
A. It's hard to know what it would have shown.

Page 75

I mean I don't have any reason one way or the other to say it would have shown something bad or something good. I mean my gestalt is that she probably would have had something on that MRA.
Q. And "something" means some abnormal finding of the mesenteric vasculature?
A. I think she probably would have because I believe his autopsy indeed demonstrated there was some entrapment of those two arteries, so I expect the MRA is going to show something.
Q. Would it show more likely than not some atherosclerotic disease of her mesenteric vasculature?
A. I don't think you can see that on an MRA. It's not enough -- it does not define the disease process. What it's going to define are obstructions of the artery, and it's unfortunately our job as physicians to figure out what's causing the obstructive process.
Q. Would you agree that had an MRA been done in December of '01 of the mesenteric vasculature of the celiac, the SMA, and the IMA, that it would have been positive for occlusive or stenotic findings?
MS. SEACRIST: Objection.
You can answer.
THE WITNESS: You know, I think it would be

Page 76

an interesting finding to see. If indeed she has got, which I think she does, compression of the celiac and superior mesenteric arteries, if they catch it in the wrong phase of breathing, it might be open; it might be occluded. It's the same problem you're going to have when you do a duplex scan for that disease process.
BY MR. MARGOLIS:
Q. I want you to assume that she had atherosclerotic disease in her mesenteric vasculature of the celiac, SMA, and IMA in December of '01. Had an MRA been done, would it have been diagnostic for occlusive or stenotic findings?
MS. SEACRIST: Objection.
THE WITNESS: It depends on the degree of the atherosclerotic process.
BY MR. MARGOLIS:
Q. I want you to assume that the celiac had 70 percent stenosis.
A. Well, we can only assume it would have shown that.
MS. SEACRIST: Objection to the basis of that hypothetical.
BY MR. MARGOLIS:
Q. When an MRA is done, don't they do serial

Page 77

cuts over a period of time so it would include both phases of inspiration and expiration?
A. Serial cuts over time. I'm not a radiologist, so I can't tell you exactly how they do them. So I'm not going to answer that. I don't know that I can answer that.
Q. Okay.
A. I would be guessing if I answered that for you.
Q. And offering no disrespect to you, sir, but given the fact that you're not a radiologist, you don't want to guess on that issue, you still feel comfortable opining as to what an MRA would or would not have shown on Mrs. Keiter in December of '01 if it had been done of her mesenteric vasculature?
A. I feel pretty comfortable of it. I can tell you about the study. I couldn't tell you how the machinery works. I'm probably better at interpreting these things than the radiologists are.
Q. Okay. If an angiogram would have been done in December of '01, do you have an opinion as to what it would have shown of the mesenteric vasculature of Mrs. Keiter?
MS. SEACRIST: Objection. It's been asked.
Go ahead.

Page 78

THE WITNESS: The only thing I'm certain it would have shown is compression syndrome of the celiac and superior mesenteric artery. I don't know from the information that I have the degree of narrowing of those arteries. I've seen an awful lot of arteriograms on people with compression syndrome, and if you catch them at the right time, they're wide open, and if you catch them in the right cycle, there's a high-grade stenosis in the artery.

BY MR. MARGOLIS:

Q. Assume, sir, that in August of '01 a duplex ultrasound was positive for 70 percent stenosis of the celiac artery. Do you have an opinion if that information were true as to what the finding of an angiogram of the mesentery vasculature in Mrs. Keiter would have been in December of '01?

MS. SEACRIST: Objection.

THE WITNESS: I'll give you the same answer because the duplex scan ultrasonographer may have just caught that artery in the right phase and not gone any further to investigate it with inspiration and expiration movements.

BY MR. MARGOLIS:

Q. Assume for a second, sir, that you are correct and that she suffered from this compression

Page 79

syndrome. Did it affect just the celiac or the celiac and the SMA?

A. Well, the autopsy suggested it affected both.

Q. Okay. Assume, sir, that you are correct and that she suffered from this compression syndrome. You would have expected that condition to have been diagnosed in December of '01 had a duplex study or an MRA study been done?

A. No, I'm not going to say I would have expected it because it's a difficult diagnosis to make.

Q. Would an MRA study, assuming it was an accurate MRA study appropriately interpreted, in December of '01 in your opinion of this patient been diagnostic for arcuate ligament compression syndrome of her SMA and celiac?

A. I think it probably would have if appropriately performed and appropriately interpreted.

Q. Assuming, sir, that she had compression of her SMA and celiac secondary to median arcuate ligament, can that condition in and of itself cause mesenteric ischemia?

A. Yes.

Q. If that condition is left untreated, what is the evolution?

Page 80

A. Well, if all they have is celiac axis and superior mesenteric artery compression, the natural history is they're going to do fine. They probably will not have symptoms.

Q. Okay. So if I understand your testimony, assuming that you are correct and she had this compression syndrome of the SMA and celiac, it was no causative factor in her ultimate death.

A. No, that's not what I said.

Q. That's why I'm here, to learn.

A. I understand that.

It contributes to her death, but as we talked about earlier, this -- it is as the third artery gets in trouble from some other process, as in this case she developed severe atherosclerotic occlusion of the takeoff of the inferior mesenteric artery that got her in trouble because then her collateral networks are not able to provide the blood flow she needs to maintain viability of her intestines.

Q. Meaning no disrespect, how does that correlate with the finding of the celiac and SMA with severe atherosclerotic disease per the autopsy slides?

A. I'm not sure that -- you didn't ask -- that was not the question you asked. Now, if you want to ask if she had developed severe atherosclerotic

Page 81

disease in her superior mesenteric artery. Your question was whether she had entrapment or compression syndrome.

Q. Is it your opinion in this case that the arcuate ligament compression diminished and eventually cut off the blood supply to the celiac and SMA and then because of atherosclerotic disease of the IMA, her blood flow to her gut stopped?

A. I don't think we know. I think we speculate. But as I said when we started this deposition, it's awful hard to dispute what the autopsy found. She's got atherosclerotic arterial occlusive disease of her celiac axis and superior mesenteric artery. Now, how those two interacted, i.e., the atherosclerotic process and the compression syndrome, we will never know.

Q. Doctor, assume that you are correct and she had this compression syndrome of the celiac and SMA which would have been diagnosed in December of '01. Do you follow these patients to see if they become symptomatic?

MS. SEACRIST: Objection. I don't think that's what he said.

MR. MARGOLIS: It's a question.

MS. SEACRIST: You said "assume you are

Page 82

correct," and that's my objection.
You can answer.
BY MR. MARGOLIS:
Q. Do you understand what I asked, sir?
A. Yes, I do follow you.
Q. Why?
A. Because they have a process that's abnormal and their artery is slow.
Q. What is the purpose of following them, sir?
A. In case they get in trouble.
Q. When you say "get in trouble," what do you mean?
A. Develop symptoms.
Q. And assuming they develop symptoms and you have this information of the abnormality of the arteries, i.e., the compression, what significance is that to you in the management of the patient's condition who now becomes symptomatic?
A. It means they need a bypass or some way to remedy their poor profusion to their bowel.
Q. In Mrs. Keiter's case, had the compression syndrome been diagnosed of the celiac and SMA and she had the same symptoms that she did and this was known in December of '01 by her physicians, do you believe it would have impacted her outcome?

Page 83

A. We could speculate on that all day. The biggest concern is that her presentation for mesenteric ischemia was not typical. It's somewhat atypical. It was quite some time after that December admission that she eventually began to complain of what I call postprandial discomfort because these people don't complain of pain. It's a different sensation than just pain, and she was not complaining of that at the time. There were -- from what I can tell from gastroenterology colleagues that I've dealt with over the years, there are a number of conditions that will present just like this.
MR. MARGOLIS: Doctor, I would like to take a break at this moment for about five minutes if I can.
THE WITNESS: Sure.
THE VIDEOGRAPHER: The time now is 11:57. We're off the record.
(A recess was taken.)
THE VIDEOGRAPHER: The time now is 12:09. We're back on the record.
BY MR. MARGOLIS:
Q. Doctor, I'm switching gears a little bit here. I am going to talk about acute mesenteric ischemia.
A. Go for it.

Page 84

Q. Would you believe that the more important factor in the overall approach to treating a patient with acute mesenteric ischemia is early diagnosis and aggressive management of the condition?
A. Sure. I may be a fool not to agree with that.
Q. Would you agree that with acute mesenteric ischemia that a clinical profile of pain out of proportion to clinical findings is a classical description of patients with acute mesenteric ischemia?
A. Early on, yes.
Q. Would you agree that intraoperatively a test to determine intestinal viability is fluorescein that is then exposed to a Wood's lamp?
A. I've done a lot of those. I've never -- I tend to think more -- I'm going to try to answer your question in a little bit of a roundabout way, because what fluorescein does is it tells you is there circulation to the smaller blood vessels of the bowel, and that usually correlates with viability. So I think that yes, you would use that, but it's not a test that will tell you absolutely you have a viable bowel. It tells us that you've got blood flow into the smaller circulation. So 99 percent of the time,

Page 85

yes, I would agree with that statement.
Q. Is it your opinion, sir, based upon your review of the records in this case that Dr. Shuck was of the opinion that Mrs. Kessler's bowel was viable at the time of his first surgery?
A. Yes, that was my opinion.
Q. Would it surprise you to learn if Dr. Shuck were to testify that he did not have an opinion one way or the other whether the bowel was viable or not viable at the time of his first surgery?
A. That would shock me.
MS. SEACRIST: Objection.
BY MR. MARGOLIS:
Q. Okay. Why?
A. If he did not -- it's kind of hard to believe. He's the surgeon in charge who is taking a patient to the operating room with the concern of some intra-abdominal catastrophe. His description is dusky, but viable-appearing bowel. He either went brain dead after making that observation or he had to have had an opinion whether that bowel was viable or not because if it was not viable, as in his second operation, he'd just close, make the patient comfortable, and let them expire.
Q. Would you agree with the statement that the

Page 86

primary clinical use of duplex ultrasonography of the mesenteric vasculature is to detect stenosis in the celiac or SMA and that where the findings suggest a stenosis, that contrast angiography should be performed?

A. I would agree with the first part of that in that its primary objective is to determine the presence or absence of significant disease or obstruction of those arteries, whatever the process is. It's also very good for determining total occlusion. But I don't know that I can agree that just because you found that, that you need to go get an arteriogram.

Q. Do you agree with the statement that patients presenting with a clinical suspicion by their physician of acute mesenteric ischemia should always undergo an abdominal aortogram to look for mesenteric artery disease?

MS. SEACRIST: Objection.

THE WITNESS: No, I don't agree with that either. Suspicions of it, again, it depends on how highly suspicious you are. If you were to send a patient off to get an arteriogram for an acute mesenteric event, it's got to be the number-one thing on your list of differentials.

Page 87

BY MR. MARGOLIS:

Q. Same question, the only change is instead of an angiogram is the test, a duplex ultrasound.

A. Duplex ultrasound is not usually used in patients for acute mesenteric ischemia.

Q. Okay.

A. That has not been the standard of care usually because duplex scanning is more of an elective procedure. Some people believe that you need to pretreat the patient to get rid of intestinal gas, those sort of things. We have used them emergently here for other reasons, but that's not usually the standard of care how we use it.

Q. Would you agree that 75 percent of the patients with chronic mesenteric ischemia give a history of weight loss, significant weight loss?

A. No. I think it's probably higher than that. In my experience of seeing patients that truly have this disease, almost a hundred percent of them have lost weight and have postprandial discomfort of some sort. Not a hundred percent, but it's pretty doggone close to a hundred percent.

Q. Would you expect a gastroenterologist to know that the majority of patients with chronic mesenteric ischemia have a history of significant weight loss?

Page 88

A. I would expect them to know that, yes.

Q. Would you agree that surgical revascularization of a patient with mesenteric ischemia prior to infarction of the bowel has about a 90 to 95 percent success rate?

A. Define "success rate" to me.

Q. It cures the underlying condition and the patient lives.

A. No, I wouldn't agree with that number.

Q. What numbers would you use, sir?

A. A hundred percent.

Q. Thank you.

And would you agree that the mortality rate of acute mesenteric ischemia is around 90 percent if the diagnosis and treatment is not initiated prior to intestinal infarction?

MS. SEACRIST: I'm sorry. Would you repeat that? I just lost you.

MR. MARGOLIS: Sure.

Could you read that back, please?

(The record was read.)

MS. SEACRIST: Objection. Relevance.

THE WITNESS: I'm going to agree with that. I would think that number would be a little higher than 90 percent as well because once bowel infarction

Page 89

occurs, most of these people are going to expire, but I'm sure there's always somebody out there that survives.

BY MR. MARGOLIS:

Q. When you say most of them, would you say greater than 80 percent?

A. I would say greater than 90 percent. I mean acute mesenteric ischemia is a catastrophic problem that's so difficult to diagnose --

Q. I'm listening, sir.

A. I'm thinking -- that because its presentation is so unusual and usually the patients come with other co-morbid problems that -- they're sick when you see them. You're not quite sure where you're going with your diagnosis, but by the time you make that diagnosis, the bowel has already infarcted. It's one of those disease processes that goes a little bit against everything we're taught in medical school, is to, you know, depend on your history and physical examination. And as you said, it's one of those where the physical exam doesn't help you a whole lot.

Q. And so the history is very important?

A. No. Frequently there's no history at all. There's not much of anything.

Q. Okay.

Page 90

A. The patients usually show up with no history. They've got sudden onset of severe -- it's not a little pain. It's severe pain. I've always likened it to the patient that rolls in the door with a kidney stone.
Q. That's terrible. I've had that.
A. They're all over the bed. They're all over the room. They can't hold still. They look sick as they can be. But then you go to palpate their abdomen, and their abdomen is soft. They've got bowe sounds. You can't figure out what's going on.
Q. Would you agree with the statement that acute mesenteric ischemia is more common than chronic mesenteric ischemia?
A. I don't know that we can answer that question either. I think that's one of those questions in life that we will never know the answer because you don't know the denominator of that number. We have a little better handle on acute mesenteric ischemia because it's such a dramatic presentation whereas chronic mesenteric ischemia is not very dramatic until you reach the very end point.
Q. Would you agree that patients with acute mesenteric ischemia, about three quarters of them have leukocytosis, which I'm defining as a white blood cell

Page 91

count greater than 15,000?
A. Sure.
Q. They frequently will have an elevated amylase level?
A. They may; they may not.
Q. Do doctors see acute mesenteric ischemia more frequently than chronic mesenteric ischemia?
A. I don't think we can answer that either because I think a lot of doctors don't recognize when they see mesenteric -- chronic mesenteric ischemia. Acute mesenteric ischemia is recognized because the patient frequently dies before you get a chance to do anything.
Q. Would you agree that a normal CT will not exclude the diagnosis of acute mesenteric ischemia?
A. It depends on the timing of your CT scan. If you get your CT scan very, very, very early on in the process, it may be normal, but soon thereafter it will not be normal.
Q. You would agree that a normal K.U.B. will not exclude the diagnosis of acute mesenteric ischemia?
A. I would agree with that.
Q. And bear with me. I'm just kind of reviewing this because I don't want to repeat what I've already said.

Page 92

Would you agree that it's important to consider and pursue the diagnosis of acute mesenteric ischemia in a patient who has the classic early finding of severe abdominal pain out of proportion to physical findings?
A. I think the key word there is "severe." And if it is severe on a ten out of ten basis, not by the patient's explanation, but by the doctor's, that it came on suddenly with no preceding symptoms, then I think yes, you would consider that.
Q. Are you aware that in this case at some point during the emergency room when Mrs. Keiter's abdomen was examined, she jumped off of the gurney?
A. No, I'm not aware of that.
Q. Would that be an example of a patient's reaction to severe pain?
MS. SEACRIST: Objection.
THE WITNESS: I don't know that I can answer that either. It could be a reaction to cold hands. I've had patients do that.
BY MR. MARGOLIS:
Q. Could it also be a reaction caused by severe pain?
A. No. Usually patients with severe pain won't move.

Page 93

Q. Okay.
A. You know, they don't want to do anything. They'll grab at you, but they won't hop off the bed and run down the hall on you.
Q. What, if any, is the significance in a patient that you think may have acute mesenteric ischemia if there is a finding on the CT of bowel wall thickening?
A. Make sure I understand. What is the significance of bowel wall thickening in acute mesenteric ischemia? Is that what you're asking?
Q. Yes, as demonstrated by CT.
A. To me, the significance would depend on the location of the bowel wall thickening. If the majority of the small bowel is thickened, which is usually the case with acute mesenteric ischemia, in the context of the history of this going on for a while, I think it would be significant, something I would be concerned about.
Q. And what would its presence indicate to you in the context?
A. I'm not sure it would indicate anything to me in and of itself if it was the only finding. At that point in time I would expect to see some of the other findings if we're worried about acute mesenteric

Page 94

ischemia, potentially gas in the portal vein system, pneumatosis of the bowel walls, air fluid levels in the bowel, or large, dilated bowels that are full of fluid.
Q. What is the significance of large, dilated bowels full of fluid in this context? What does that mean to you?
A. It usually means that the bowel is pretty sick.
Q. And that included the small bowel?
A. That's what I'm mostly talking about, is the small bowel.
Q. Okay.
A. Acute mesenteric ischemia from the context of what we're talking about normally does not involve the colon. I shouldn't say that. It can involve the colon, but not alone. It's not just colon, although I can sit here and give you instances where that well might be the case, where you have a small embolus that goes out into the ileocolic branches, ileocolic branches, but that's a very rare bird.
Q. Okay. What, if any, is the significance in the context of what we're talking about of a patient comes in and the differential is acute mesenteric ischemia and on the CT there are findings of bowel

Page 95

wall thickening? And you said "that may be significant to me."
A. Well, actually, none of these individually are significant.
Q. I agree, but I'm talking over --
A. They're all in the context of everything. If the patient's clinical presentation doesn't strongly suggest acute mesenteric ischemia, then the CT scan is not going to make that diagnosis for you. Acute mesenteric ischemia is a diagnosis that's usually made clinically and then verified by some type of testing.
Q. Fine.
A. And it's not uncommon that patients will even be taken to the operating room for the, quote unquote, old, classic exploratory laparotomy because no one can figure out what's going on.
Q. Is bowel wall thickening reflective of submucosal edema and hemorrhage in this context?
MS. SEACRIST: In the context of acute mesenteric ischemia?
MR. MARGOLIS: Yes.
THE WITNESS: It probably is, particularly the edema.
BY MR. MARGOLIS:
Q. Would you agree that acute mesenteric

Page 96

ischemia is an intra-abdominal catastrophe almost as lethal today as it was 50 years ago?
A. Yes. I don't think we've made any progress.
Q. And that making the diagnosis of acute mesenteric ischemia prior to bowel infarction is probably the most important factor to improve patient outcome?
A. Correct.
Q. Do you agree with the statement that improvement in the survival of patients with mesenteric ischemia will only be achieved when it is recognized that waiting for definite physical signs, i.e., the development of acute abdomen, is equivalent to waiting for ischemia and viable bowel to infarct?
THE WITNESS: Read that again. I'm just curious to hear that.
(The record was read.)
MR. MARGOLIS: Let me ask it again because I did a pretty inartful job.
THE WITNESS: Go for it.
BY MR. MARGOLIS:
Q. Would you agree that in order to improve survival of patients with acute mesenteric ischemia, physicians must recognize the waiting for definite physical signs, i.e., the development of an acute

Page 97

abdomen, or radiological signs is equivalent to waiting for viable bowel to infarct?
MS. SEACRIST: Objection.
THE WITNESS: I don't think it's equivalent to waiting for bowel to infarct because by the time you have physical findings does not always equate with bowel infarction. What it equates with is transmigration of intestinal fluid and bacteria into the peritoneal cavity to irritate the peritoneal lining and give you signs and symptoms of an acute abdomen. If you wait long enough, there's no question you'll wait -- you'll develop bowel infarction, but you have to have constant, vigilant observation to make that observation to take the patient to the operating room and interact. You can't just say we'll send the patient home. Come back and see me in a couple of days, if that answers your question.
MR. MARGOLIS: Yes, sir.
Q. In December of 2001 if you wanted to do a work-up on a patient to exclude acute mesenteric ischemia, what would you have done?
MS. SEACRIST: Objection.
THE WITNESS: Well, I think you got two options there. One, you go to the operating room and exclude it, or -- and that's really the only way you

Page 98

can exclude acute mesenteric ischemia. What frequently happens is that the diagnosis is made or suspected and one goes and gets an arteriogram, and what you find is an artery that's obstructed, and then you logically, but not always correctly, but most times logically, assume that point A and point B go together and then you take them to the operating room and you fix it, because the majority of those patients present from an embolic phenomenon, not a thrombotic process. The embolic process has a very distinct look on the arteriogram. You can also make that diagnosis in the operating room by the way the bowel looks, whether it's embolic or thrombotic.

MR. MARGOLIS: Gotcha.

THE WITNESS: And the most common times that we're called by the general surgeon who is in the operating room with a patient he has no idea what's wrong with them, he just knows they're sick, and they call and say "The bowel looks bad. Can you come look." Then we get in there and figure out what's going on and deal with it.

BY MR. MARGOLIS:

Q. What do abdominal bruits tell you as a vascular surgeon?

A. They tell me a little different than most

Page 99

people because needless to say I'm very focused in on mesenteric disease, abdominal bruits can be anything from just functional disturbances in flow. The best example would be the 15-year-old who wants to play football, goes and has a physical and the doctor hears a heart murmur. There is absolutely nothing wrong with him. It's just that the flow is a little different.

You can have bruits in the abdomen due to stenoses of any artery, tortuous artery, anything. It's just -- it tells you that there's a disturbance in the flow. Whether it's significant or not, you don't know.

MR. MARGOLIS: We're going to change the tape, please.

THE VIDEOGRAPHER: Thank you.

The time now is 12:30. This the end of tape number one. Going off the record.

(Pause in proceedings.)

THE VIDEOGRAPHER: The time now is 12:33. This is the beginning of tape number two. We're back on the record.

BY MR. MARGOLIS:

Q. Doctor, do you agree that you cannot definitively rule out acute mesenteric ischemia by

Page 100

physical exam alone?

A. Boy, that's a good question. I think I'd probably have to say -- I think I would probably say no, I wouldn't agree with that. I think that you can rule it out by physical exam and history, but it's tough to always rule it in --

Q. Okay.

A. -- I think if one comes from that direction. You're dealing with a disease process that's been one of the mysteries of vascular surgeons and general surgeons for ages. There is no definitive anything. That's why a lot of times the patients go straight to the operating room because you really can't tell what's going on.

Q. Do you agree with the statement that you cannot definitively rule in acute mesenteric ischemia by physical exam alone?

A. I would agree with that, with physical exam alone. You need the history to go with it.

Q. Per your review of the records in this case, did any physician other than Dr. Kessler and Dr. Moreno -- strike that.

Per your review of the records in this case, did any physician other than Dr. Kessler have acute mesenteric ischemia in their differential diagnoses of

Page 101

Mrs. Keiter?

A. You know, I would hope they did, but only one wrote it down.

Q. Per your review of the information in this case, inclusive of the depositions, did anybody other than Dr. Kessler have acute mesenteric ischemia in their differential diagnosis of Mrs. Keiter?

MS. SEACRIST: I mean at what point? As of July 7, obviously.

MR. MARGOLIS: At the point prior to the angiogram of July 7.

MS. SEACRIST: Prior to July 7.

MR. MARGOLIS: Let me ask the question again.

Q. Doctor, based upon all the information you reviewed in this case, including the depositions which were supplied to you after penning your report, did any physician have in their differential diagnosis prior to the July 7 angiogram acute mesenteric ischemia of Mrs. Keiter other than Dr. Kessler?

A. No.

Q. I probably will mispronounce this, and please help me.

Once a patient has pneumonitis --

A. Pneumatosis --

Q. -- pneumatosis --

Page 102

A. -- intestinalis.
Q. -- intestinalis from acute mesenteric ischemia, what is their chance of survival with revascularization surgery?
A. I don't know the answer to that.
Q. Less than 50 --
A. You've asked two very good questions.
I don't know that that -- it is a significant finding. There's no question that there is significant bowel pathology or ischemia. And I think when I came out of my surgical training, I would probably have told you the answer to that was they had no chance of survival, but I've seen patients survive with that, and I have also seen patients present with pneumatosis that have mesenteric venous thrombosis, and those patients you don't normally treat surgically. You treat them medically, and they do fine.
So I think we've learned a little bit more because it's usually a diagnosis -- it used to be a difficult diagnosis to make on plain x-rays. CT scans is where you really make it nowadays, and if you catch them early enough, you can still salvage those people, but the bowel is truly in trouble at that point.
Q. Would you agree with the statement that

Page 103

patients with acute mesenteric ischemia who have pneumatosis intestinalis and air in their portal vein, that the chance of survival is less than 50 percent?
A. Again, I think I would have to go back and say earlier in my career I would have said their chances are survival are less than 50 percent, but I think what overcedes that is when you get to the operating room and you see viable bowel, the question -- a better way of looking at that question would be do they have a chance of salvaging all the bowel or enough bowel to salvage their life, and I don't know that any of us know the answer to that.
But I do know this, is that we've done CT scans earlier and earlier and earlier in people's presentations. We're seeing things that before we saw late in presentations, and in the late clinical presentation the patient didn't have a chance, so they were assumed to be indicators of nonsalvageability whereas we're finding we're seeing those findings earlier on, and patients are being salvaged because we more rapidly progress to deal with the problem.
But as I say, I don't know if I can give you a definitive answer. I think my roundabout answer hopefully answered your question. I don't know that I

Page 104

can say it's less than 50 percent now. I would have earlier on in my career. I would have agreed 100 percent with that statement, but now I don't think I would agree with that.
Q. Let me ask the question this way, sir.
In a patient with acute mesenteric ischemia who has pneumatosis intestinalis, air in the portal vein, isn't it more probable than not that that patient will not survive a revascularization procedure and succumb to the disease?
A. I don't know that we know the answer to that either because the majority of times in the past, pneumatosis and portal vein gas were associated with totally gangrenous bowel. You have a case right here where you have pneumatosis and portal vein gas and a viable bowel. So it's the viable bowel overcedes what you saw in your radiologic picture. So I don't think that you can look at those findings and say, "Well, because of that, this woman was going to die," and the next leap of faith is, "Well, we shouldn't have taken her to the operating room and tried to do anything." That's exactly what we used to do 10 to 15 years ago when CTs first got used a lot for this, is you would see that and you'd go "Well, this is a nonsalvageable situation." That's not the case now.

Page 105

Q. And I understand that. The question is if you have a hundred patients hypothetically, a hundred Mrs. Keiters, given her condition of July 7 with the pneumatosis intestinalis and air in the portal vein, if a hundred of those people are taken in the operating suite, are you telling me that more than 50 of them are going to survive?
A. Yes.
Q. And what's the basis for that opinion?
A. My experience.
Q. Is there any literature?
A. I don't think those people -- well, I think I probably ought to ask you what are they going to die from?
Q. From complications secondary to their acute mesenteric ischemia, whether it's sepsis or any of the other hosts of medical conditions that will occur when your gut dies.
A. So you're assuming that the gut is dead.
Q. I'm assuming --
A. That's what I hear you telling me anyway.
Q. That's a correct statement based upon what I said. I'm assuming -- let me ask the question this way.
What are the complications that will occur in

Page 106

a patient with acute mesenteric ischemia who has pneumatosis intestinalis and air in the portal vein? What does that tell you about the patient's condition as a vascular surgeon?
A. It tells me the patient's bowel is in trouble.
Q. Does this --
A. I think it's a major distinction in my mind your question whether the bowel is salvageable or not. If the bowel is not salvageable when you get to the operating room, then a hundred percent of those patients are going to die because you're going to close them up and leave them basically with an intestinal abscess in their peritoneum and they're going to die from overwhelming sepsis. If the bowel is viable, then you get into a whole different kettle of fish because if you've read the things that I've written, you know quite well what I believe in, is that a large number of these people will die, but they won't die without -- with necrotic bowel. They'll die from all the sequelae of being sick.
Q. Right. That's my question.
A. I don't know which one of those patients are going to survive and which ones aren't, and I don't think anybody will be able to give you a number of

Page 107

less than or greater than 50 percent because I don't know that anybody has ever done a hundred of those people to be able to derive that number. So I would only be speculating or even guessing at what you're asking.
Q. In your experience in patients with these conditions, acute mesenteric ischemia that has progressed to pneumatosis intestinalis, air in the portal vein, what percentage of those patients will die from either the condition or the sequelae of their condition subsequent to revascularization? Greater or less than 50 percent?
A. I still think less than 50 percent, but it will be a significant number. I mean --
Q. 55 percent?
A. No. Less than 50 percent will die.
Q. 45 percent?
A. I don't know the answer to that. I don't think anybody knows the answer to that.
Q. It would be a guess.
A. It would totally be a guess.
Q. Thank you.
Take a two-minute break, please.
THE VIDEOGRAPHER: The time now is 12:43. We're going off the record.

Page 108

(A recess was taken.)
THE VIDEOGRAPHER: The time now is 12:46. We're back on the record.
BY MR. MARGOLIS:
Q. Would you expect to see more likely than not rectal bleeding in patients with acute mesenteric ischemia early on?
A. No.
Q. Would you expect more likely than not to see a distended abdomen in patients with acute mesenteric ischemia early on?
A. No.
Q. Would you expect to see vomiting in patients with acute mesenteric ischemia early on?
A. Yes.
Q. Given Dr. Kessler's following of Mrs. Kessler during the Hillcrest hospitalization --
MR. FINELLI: Keiter.
MR. MARGOLIS: I'm sorry.
Q. Given Dr. Kessler's following of Mrs. Keiter during the Hillcrest hospitalization, would you have expected him to ever contact her personal family physician?
MS. SEACRIST: Objection.
THE WITNESS: No, I actually wouldn't. I

Page 109

don't see any reason to.
MR. MARGOLIS: Okay.
Q. Would you have expected Dr. Kessler to want to have knowledge of any other forms of Mrs. Keiter's vascular disease as information that he would have wanted to have known given his care of her during the Hillcrest admission?
A. No, I don't see any reason to.
Q. Did Dr. Kessler do anything to try to work up a cause of Mrs. Keiter's abdominal bruits?
A. No, I don't think he needed to. I don't think there was any indication to do that.
MR. MARGOLIS: Okay. Sir, we are going to suspend the deposition at this point and put on the record what I believe to be the agreement that Susan and Dan and I have arrived at, which is that I will obtain a VHS format of the ultrasound -- duplex ultrasound study that was done at 8-13-01. I will provide that to Susan. She will then provide it to you for your review. We will reconvene the deposition on the sole, exclusive, and limited purpose of what your interpretation of that study has demonstrated.
Susan, does that accurately reflect our agreement?
MS. SEACRIST: It does.

MR. MARGOLIS: Doctor, Dan and I want to thank you for your time. You have been a professional and a gentleman, and thank you very much.

THE WITNESS: Thanks for coming.

THE VIDEOGRAPHER: This concludes the deposition today of Dr. Timothy Harward. The total number of tapes used was two. The original videotapes will be retained by Rennillo Court Reporting Services in Cleveland, Ohio.

Going off the record. The time now is 12:50.

(The deposition was adjourned at 12:50 p.m.)

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

I, TIMOTHY R. S. HARWARD, M.D., declare under the penalties of perjury under the State of California that the foregoing is true and correct.

Executed this day of , 2005, at , California.

TIMOTHY R. S. HARWARD, M.D.

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

I, Kathleen E. McCarthy, Certified Shorthand Reporter No. 4483 for the State of California, do hereby certify:

That prior to being examined, the witness named in the foregoing deposition was duly sworn to testify the truth, the whole truth, and nothing but the truth;

That said deposition was taken down by me in shorthand at the time and place therein named and thereafter reduced by me to typewritten form and that the same is a true, correct, and complete transcript of said proceedings.

I further certify that I am not interested in the outcome of the action.

Witness my hand this 20th day of July, 2005.

Kathleen E. McCarthy, Certified Shorthand Reporter No. 4483 for the State of California