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PATTY DOLL, et al.,		*	IN THE
	Plaintiffs	*	COURT OF COMMON PLEAS
	vs.	*	CUYAHOGA COUNTY
UNIVERSITY HOSPITALS, et al.,		*	OHIO
	Defendants	*	297828

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Deposition of THOMAS R. PRICE, M.D. was taken on Wednesday, May 5, 1999, commencing at 1:00 p.m. at 660 West Redwood Street, Baltimore, Maryland, before MARK E. BROWN, RPR, CSR.

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APPEARANCES:

HOWARD D. MISHKIND, Esquire
On behalf of the Plaintiffs

GEORGE M. MOSCARINO, Esquire
On behalf of the Defendants

RONALD A. RISPO, Esquire
On behalf of the Defendants

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Reported By:
MARK E. BROWN, RPR, CSR

I N D E X O F W I T N E S S E S

I N D E X O F E X H I B I T S

THOMAS R. PRICE, M.D.

the Deponent, called for examination by the Plaintiff, being first duly sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

(Whereupon, a curriculum vitae and a report were marked as Price Exhibit Nos. 1 and 2 respectively for identification.)

EXAMINATION

BY MR. MISHKIND:

Q. Would you please state your name?

A. Thomas R. Price.

Q. Dr. Price, I'm Howard Mishkind. I represent Patty and George Doll. I will be asking you some questions this afternoon concerning the opinions that you hold that you will be expressing at the time of the trial which is coming up in a little bit over a month from now, okay?

A. Okay.

Q. I have a document which I'd mark as Exhibit 1 which is represented to me to be your current curriculum vitae at least revised as of

September of 1998. First, is this --

A. Okay. We have a more recent -- I'm sorry, I didn't realize that. We have a more recent one. She will be bringing it around in an hour or so.

Q. Okay. That's current as of September of 1998?

A. I believe so, yes.

Q. Do you know what additions would need to be made to that to bring it up to May of 1999?

A. Probably some additional papers. I think four or five additional papers to this.

Q. Any changes in your affiliation at any hospitals or universities?

A. Not from this, no.

Q. I also have, Doctor, what I've marked as Plaintiff Exhibit 2 which is a letter that you wrote to Patty Cuthvertson dated September 22nd of 1997. Is that, in fact, your opinion letter?

A. Yes, it is.

Q. Have you written any other letters in

this case other than that letter concerning the Patty Doll case?

A. I don't think so.

Q. What is your professional address?

A. Here in the Department of Epidemiology and Preventive Medicine at the University of Maryland School of Medicine in Baltimore.

Q. Are you spending all of your professional time in the act of clinical practice of medicine currently?

A. Not currently, no.

Q. What percentage of your time do you spend?

A. I spend no time in active clinical practice now.

Q. When did that change take place?

A. July lst, 1998.

Q. As I ask you questions, Doctor, just for my benefit and for the court reporter's, even though you may know where I'm going, wait until I'm finished with the question until you start

answering, okay?

A. Thank you.

Q. Thank you. Prior to July 1st of 1998, were you actively involved in the clinical practice of medicine?

A. Yes, I was.

Q. And what change took place as of July of 1998?

A. I actually retired from the Department of Neurology and starting a month later, August the 1st, took a part-time job here in the Department of Epidemiology and Preventive Medicine.

Q. Tell me basically what your day-to-day activities consist of now.

A. I'm involved in teaching and research. The teaching is for medical students and some graduate students in the second year and the third year of medical school and in the fourth year of medical school and direct counseling with student research involved in three projects; one is a drug trial, one is a cardiovascular health study which is

an NIH national study at four sites around the country and I'm a consultant to Johns Hopkins for that study, and the third study is a study of the return to work in stroke patients which is headed up by Dr. Wazniak here in this institution. I've also done some consulting work on a short-term basis for other projects but not currently.

Q. Okay. And do you have any other professional pursuits other than the teaching and the research that you do currently?

A. Well, I review papers for journals as I have for many years. I review research grants. I will be reviewing one for NIH next month. I'm reviewing one for the Welcome Trust in England and I'm supposed to review one for the Vancouver Foundation in Canada. I've forgotten the exact name.

Q. Since July of 1998, though, you haven't actually treated any stroke patients; is that correct?

A. That's true.

Q. Your report of September 22nd of 1997 identifies a number of items that you had reviewed as of that time and I note with the cover letters from Mr. Moscarino's office that you have received a number of additional items since then; is that correct?

A. I actually haven't compared the two lists. What I've reviewed recently is what I received recently. I actually don't any longer have the documents that I originally reviewed.

Q. In fact, I was going to say that it looks like what Mr. Moscarino's office did was, because of the passage of time, sent you back all of what you referred to in your September '97 letter and additional material; is that correct?

A. I think so, yes.

Q. You had probably just discarded the material?

A. I thought that was the end of the case but it wasn't.

Q. All right. And so you had to re-review

the material again?

A. Yes, I did.

Q. And in addition, you had an opportunity to review the depositions of various experts and physicians that are involved in this case; is that correct?

A. Yes, I have.

Q. Doctor, does your CV that you have there, are there any articles referenced in the CV that you believe to be applicable to this case?

A. The one that has already been cited, the article in the New England Journal about pregnancy in the postpartum state as in relationship to stroke.

Q. Any others besides what I will refer to as the Kittner article?

A. None that I know will be relevant to the case, but, I mean, there are many that are relevant to the case in terms of identifying stroke type, what is a stroke and so forth, but it depends on whether you bring them up or someone else.

Q. Well, you know what you've written. What I want to know is whether or not there is anything in your writings or presentations that are referenced in the CV, rather than going through line by line, that you believe to be applicable to a woman who delivers a baby and then during the first two weeks after delivering the baby has a stroke that in some way is a factor in terms of the opinions that you're going to be expressing other than the Kittner article?

A. Right. I think that's the only one that I know is relevant.

Q. Okay. Have you reviewed any articles in the medical literature prior to preparing your report other than the Kittner article?

A. Prior to preparing, I've reviewed many, many articles. I review them all the time. As I said, I review for journals accepting articles.

Q. Any articles that would in any way relate to the issue of cause of stroke in a woman who is postpartum other than the Kittner article?

A. I can't recall any.

Q. Have there been any further articles that you're aware of that have commented on the Kittner article since it was published in the New England Journal of Medicine?

A. Not that I can currently remember, no.

Q. Could you tell me when it was that you were first contacted in connection with this case?

A. No, I can not.

Q. Other than --

A. It was certainly before the letter that I wrote which was a couple years ago.

Q. Other than the material that you have in front of you which are depositions, reports, and records, is there any other material that you have that perhaps is at home or somewhere else concerning this case?

A. No. I brought in everything this morning that was at home, these letters from Patty Cuthvertson and I think Mr. Moscarino.

Q. And what I would like to --

A. Oh, I'm sorry. I have some x-rays that they sent me as well and the reports in the x-rays.

Q. And those were the films that were referenced in your letter of September 22nd of 1997, correct?

A. Yes.

MR. MISHKIND: George, what I would like to do rather than taking the time is since they are just cover letters, if you could just provide me with a copy of the cover letter that just confirms what it is that he has here rather than going into the record and reading it.

MR. MOSCARINO: You mean you just want copies of these letters that we have right here?

MR. MISHKIND: Just so it reflects exactly what it is that was sent to him so I don't have to read it into the record.

MR. MOSCARINO: That's fine.

MR. MISHKIND: Okay.

THE WITNESS: I think there was one more letter which I left on my desk just now but it is

just making an appointment for today. I realized it because I know I wrote a little note on it, I thought you would ask me about the note. The note just says 10:30, the time we agreed to meet this morning and the room number of this room.

BY MR. MISHKIND:

Q. Do you know how it is that you were introduced to Ms. Cuthvertson or Mr. Moscarino?

A. No, I don't. You mean the first time that I met Mr. Moscarino?

Q. The first time you were contacted presumably by phone or letter to review this case?

A. I really don't remember.

Q. Have you had occasion to work with anyone from the Arter and Hadden law firm that Mr. Moscarino used to be associated with?

A. I don't think so. They're in Cleveland?

Q. Yes.

A. As far as I know, no.

Q. Have you reviewed any cases for either side, the plaintiff or the defendant, for any law

firms up in the Cleveland, Ohio area with the exception of this case?

A. I don't think so. I don't think I've ever done that.

Q. Are you currently involved in any other cases at the request of Mr. Moscarino or anyone associated with his firm?

A. Not as far as I know.

Q. You've reviewed medical malpractice cases before?

A. Yes, I have.

Q. How many years have you had an occasion to serve as an expert?

A. Probably 20 years.

Q. And besides this case, are you currently involved in any other cases?

A. Currently is a tough word in the sense that I know of no trial that -- no case that is going to trial or has a scheduled date. I have been talking about one other case and it seems to be in limbo at the moment.

Q. So to your knowledge, there are two cases that you are serving in some capacity as an expert, this other case and the Patty Doll case?

A. Yes, but it may be all ended and I don't know. Sometimes I don't find out.

Q. Okay. How many cases in the past 20 years have you averaged in terms of on a yearly basis reviewing?

A. It's very hard to say exactly on a yearly basis because some cases as this one go over several years, but I would guess maybe I've been involved in 20 cases, something of that sort.

Q. Can you tell me when the last time you gave either deposition testimony like we're doing today or testified in court?

A. I gave a deposition last fall on the case that I just referred to.

Q. What was the subject matter in that case?

A. It's a case of a patient who had several strokes and the question related to the etiology of

the stroke. The patient was not pregnant -- or had been pregnant but pregnancy was not an issue in the cause of the stroke.

Q. Was that a case in Maryland?

A. Yes.

Q. Do you remember the name of any of the parties to that case?

A. I think the patient's name was Seivold, S-e-i-v-o-l-d, and I've forgotten the first name and I have a hard time remembering the lawyer's firms names. It's just not --

Q. Were you retained by the plaintiff's counsel or defense counsel in that case?

A. In that case I was retained by one of the defendants.

Q. Okay. And you don't recall the name of any of the attorneys?

A. No, I don't.

Q. How many times have you testified actually in a courtroom in trial?

A. I would guess six or seven times.

Q. And the number of times that you've actually given deposition testimony during the 20 years that you've been doing this, give me your best estimate as to the number.

A. Twelve, something like that.

Q. Have you --

A. When you said -- I'm sorry, can I correct something?

Q. Go right ahead.

A. When you said in court, we also have an arbitration system in this state so that some cases are heard in arbitration which is not strictly speaking a court and I included them in my -- what did I say, six or seven?

Q. Okay. So a lesser number where you were actually in a courtroom before a jury?

A. Yes. If you pause for a minute, I think five times I've been in court and I would have to make that eight or nine times total court and arbitration.

Q. Have you provided your expertise,

Doctor, as a neurologist through any type of services, expert search services or the companies that make names available to attorneys?

A. No.

Q. Have you ever done that during your professional practice?

A. No.

Q. Have you ever testified in connection with a case involving the cause of a stroke in a woman who was postpartum?

A. No.

Q. Who do you consider, Doctor, to be some of the leading authorities on the subject of stroke following the birth of a baby?

A. You mean internationally or --

Q. Internationally or nationally, whichever.

A. And what do you mean by authorities?

Q. That you respect, that you believe to be knowledgeable and considered by yourself and your peers to have a considerable expertise in this

sub-specialty of stroke,

A. Probably the person's name that first comes to mind is Dr. Kittner, the chief author of the article in the New England Journal that we referred to before.

Q. You know Dr. Clark Millikan, one of the plaintiff experts, correct?

A. I do.

Q. How long have you known Dr. Millikan?

A. 25 years.

Q. Do you consider Dr. Millikan to be an expert in the area of stroke?

A. Yes, I do.

Q. And is Dr. Millikan, in your opinion, recognized and respected as an expert in this sub-specialty of stroke?

A. I think so, yes.

MR. MOSCARINO: The sub-specialty of stroke?

MR. MISHRIND: The sub-specialty of stroke, right.

BY MR. MISHKIND:

Q. Can you tell me, Doctor, whether there are any textbooks in the area of neurology that you consider to be -- to have reliable scientific information on the cause of stroke?

A. I know of no textbook that is 100 percent reliable but there are a large number of textbooks, some are better in one area and some are better in other areas.

Q. Can -- which do you consider to be more reliable for information dealing with the cause of stroke?

A. I actually don't know of a textbook that is totally reliable to that.

Q. Let's shift then to journals. If you wanted reliable information with regard to the cause of stroke, what journals or journal articles would you refer to?

A. A large number. Different journals, some articles in certain journals are -- seem good and others in the same journal may not be good so

it's not necessarily a journal.

Q. Let me ask you this, Doctor: Are you going to at trial deem any articles to be authoritative other than the Kittner article as it relates to the etiology of stroke in the postpartum period?

A. I don't think so, no.

Q. Okay. You have reviewed the MRI and the MRA on Patty Doll, correct?

A. Yes, I did.

Q. You reviewed it initially and reviewed it again most recently some time in April?

A. I don't think I looked at the follow-up MRI at the first time. I'm not sure if it was done or it wasn't available, I think.

Q. Tell me basically --

A. So the answer is yes but not exactly yes because some part I apparently hadn't looked at at the first go around.

Q. Which part, the MRI or the MRA?

A. The last MRI.

Q. Okay. And is this the MRI from November of 1996?

A. '96, that's it.

Q. You reference both of those in your report of September of 1997?

A. Then perhaps I had seen them. Can I look at my report? If I have referenced them, I certainly did look at it. I'm sorry, that is the -- does that say MRI or MRA? I would have to say that I don't recall looking at it before. When I looked at it in the last few weeks, it didn't look familiar to me.

Q. Describe for me, if you would, since you've recently both reviewed both the MRI and the MRA what it is that you saw when you looked at Patty Doll's films?

A. The MRA appears normal as reported by the radiologist reader, the MRI shows a large and a small stroke involving the left hemisphere, primarily the left temporal lobe and part of the left parietal lobe. It shows the atrophy after the

stroke, the results.

Q. And in what distribution is the stroke?

A. It is in the left temporal lobe and part of the left parietal lobe.

Q. Is this a middle cerebral artery stroke?

A. It's certainly not involving the entire middle cerebral artery. It appears most likely it's a middle cerebral artery branch, artery infarct.

Q. You've mentioned a large and a small stroke?

A. The small one is slightly anterior to the large one and it involves the white matter and would fit a definition of a lacune, l-a-c-u-n-e, that type of stroke.

Q. Explain to me what that is, please?

A. It's a small, deep infarct generally in the white matter or deep gray matter of the brain and that's how you identify it.

You can also identify them by the kind of deficit they cause, but we don't know whether that predated the larger stroke or came on

simultaneously with it.

Q. Do you have any basis to say that there was any evidence of stroke prior to November 15, 1996?

A. No, I don't.

Q. Are you able to tell me of what significance from a neurological standpoint the findings are that you've just described in terms of the brain in terms of what area of the brain is controlled by the area where the small and the large infarcts are situated?

A. It's possible to somewhat predict from the areas of the brain and the size of the infarct what the deficit will be but never completely. And so that reading an MRI or a CAT scan is not possible to exactly say or be accurate in saying what the deficit would be.

Q. In looking at the areas of the brain that are involved, can you tell me to a probability what type of neurological impact injuries of that size to that location of the brain would cause?

A. Usually cause?

Q. Yes.

A. Well, we would expect someone with the -- who is right-handed with a left temporal lobe abnormality, as she shows, to have trouble with speech.

Q. Is that typically the aphasia type of reaction?

A. Yes.

Q. Okay. What other deficits?

A. They might have problems with memory. They might have a weakness of one side of the body, the opposite side of the body or problems with sensation on the opposite side or visual feel problems on the opposite side.

Q. These are the kind of findings that you usually see in a patient that has the infarct size in the distribution that you see on the MRI?

A. No. Those are possible defects that you could see.

Q. Have you had a chance to look at the

records on Patty Doll's neurological status to be able to correlate whether or not those findings are consistent with her clinical picture?

A. I think the findings on the MRI currently are compatible with her clinical picture as expressed in the records, yes.

Q. And which clinical manifestation, if you will, are you aware of that are consistent with the large and small stroke that you describe?

MR. MOSCARINO: Howard, it's not an objection but a comment in the fact that we've had this huge time gap in between obviously because of the stay, you know, that necessitated me resending all these materials, so I don't think any of us have a clear current picture of Patty Doll so to the extent that we may get some additional information, I may give this, just like you probably will give this to your own experts, to Dr. Price so I'm not going to interrupt.

He obviously knows what he's looked at so far, but I don't think we have any deposition or

any recent records from what she's like now, so with that interruption, you know --

BY MR. MISHKIND:

Q. Based upon the information that you reviewed as of May 5, 1999, what neurological deficits are you aware of as described in the record that are consistent with the findings of the -- in the stroke on the MRI?

A. Well, certainly her initial findings of the loss of speech and difficulty understanding and the visual field defects and the right-sided weakness and sensory problems that she had were all compatible with the lesions seen on the MRI's over time, not just the last one but the others as well.

Q. Okay.

A. They are compatible with the total picture.

Q. What about her visual field deficits? Are you familiar with what was described?

A. Yes.

Q. And what area of her vision was

impacted?

A. Yes. The right visual field, not the entire field, but I think originally the entire field but eventually it was smaller than that. It was part of the right visual field and that would be compatible with the lesion that we see on the MRI.

Q. I'm going to back up. You described two lesions or two areas of infarction. Are you of the opinion that most likely those two lesions occurred at or around the same time?

A. I don't think there is any way to know that.

Q. Is there any way to say that they occurred separated in time?

A. No way for sure to say either one.

Q. Okay.

A. It's a bit unusual to see a small lacune and a large stroke occur at the same time and to know that that's what occurred and more common would be that the small one occurred first and the large one is what is causing the current problem as what

has occurred in this patient.

Q. Did you see any other films that would suggest that the large stroke occurred at a time distant from the events of November of 1994?

A. Could you clarify the question? I'm not quite sure I understand what you're --

Q. You've looked at the CT scan as well?

A. Yes.

Q. And is there anything from the early films back in '94 and the films that you looked at that are dated in 1996 that are in any way inconsistent with each other?

A. I don't think so. I mean, if there is something you're referring to, I would be happy to specifically comment on that but the general broad way you ask the question I don't think so.

Q. And I don't mean to have it generally broad but I want to make sure that when you take the stand the end of June, that you're not going to offer an opinion that some of these findings that you see on the MRI were caused by anything other

than the stroke, to a reasonable degree of medical probability, that Patty Doll sustained on or about November 15 or November 16 of 1994.

A. I understand that.

Q. And are we in agreement that you're not going to express any such opinions?

A. I certainly don't think I would.

Q. Okay. And the only reason I ask is because when you describe a large and a small one, I want to make sure that you're not going to suggest that some other event occurred that is unrelated to this period of time between the date of her c-section and when her stroke occurred on November 16.

A. Well, I think I've already expressed that when you see two strokes, a very small one and a large one together, the usual assumption or the -- if you have evidence for it, the likeliest thing is that the small one preceded the large one and that they didn't occur at the same time.

However, as I already stated, I don't

know that it occurred before and I don't know that it occurred at the same time either.

Q. Okay. So for purposes of this case, you're not going to opine that the large stroke is unrelated to the events that occurred between the time of her stroke -- the time of the c-section and the time that the her neurological symptoms were manifested on November 16 of 1994, are you?

A. Well, to specifically answer your question, I've already expressed the opinion that it's related to her postpartum state and, of course, she was pregnant before the cesarean section occurred, and, therefore, in that sense I would be relating it to something that went on before the cesarean section.

I'm not trying to be silly, but you asked the question in a way that if I said no, I might not be quite accurate. I'm trying to be accurate.

Q. Well, what is it that occurred before the cesarean section that makes this presentation

with a small and a large stroke?

A. The fact that she was pregnant.

Q. Okay. And we're going to talk about your opinion concerning the postpartum period and the basis for your opinion, but what you see on the MRI and what you see on those films occurred at or around the time of Patty Doll's pregnancy that terminated on November 2nd of **1994**, is that a fair statement?

A. I think so, yes.

Q. Okay. We will get into the nuances of exactly when it occurred and the etiologies in a moment, but what I'm looking to find out from you is whether you are going to opine that maybe she suffered another stroke some time in **1995**, for example?

A. I currently have no evidence that she suffered another stroke in **1995**. Were it to develop, obviously I would testify to that.

Q. You have no evidence to support that kind of proposition?

A. Not currently, no.

Q. Okay. Patients that have the size of stroke in the location that you see on the MRI, are they normally left with permanent neurological deficits?

A. Most of them are.

Q. Do you have an opinion based upon the information that you've reviewed up to the time that you wrote your report or perhaps even looking at Dr. Layton's report and some of the additional material that you were provided, whether or not the neurological deficits that Patty Doll has sustained as a result of this stroke are permanent?

MR. MOSCARINO: You're just talking globally. You're not pointing him to anything specific?

MR. MISHKIND: No, but you have had an opportunity to see reports of Dr. Nemunaitis, the deposition of Dr. Nemunaitis, correct?

A. Yes, I have.

Q. And you know who Dr. Nemunaitis is?

A. Yes.

Q. And who is Dr. Nemunaitis?

A. He is a rehabilitation doctor who took care of her.

Q. And you have also seen the report of Dr. Barry Layton?

A. I believe so, yes.

Q. He's the neuropsychologist?

A. Yes.

Q. And you've seen the deposition and report of Dr. Alan Lerner, her neurologist, correct?

A. Yes, I have.

Q. And in all of those reports you see that there is reference as to the dates of those reports, there is reference to certain permanent neurological sequela describe by each of those practitioners, correct?

A. Yes, there are.

Q. Would you agree that the symptoms that they describe in terms of her deficits are consistent with the type of stroke that you

understand she suffered?

A. Yes. Yes, I do.

Q. And would you expect more likely than not that Patty Doll will have permanent deficits as a consequence of this stroke that will affect her for the rest of her life?

A. I would expect that she would have some deficits that would affect her for the rest of her life, yes.

Q. Do you ever intend to offer any testimony at the time of trial to quantify the extent of how those deficits will impact her activities of daily living?

A. If you're asking will I speculate about it, no. I would want to rely on what is her status in terms of her activities of daily living at work and balancing the checkbook and raising the children and so forth.

Q. And you have no knowledge at this point as to what the current impact of the deficits are on her activities of daily living; is that correct?

A. I have considerable knowledge based on the reports that you've already read and in talking to Mr. Moscarino, he supplied me with some information about her more current status.

Q. And, again, just to try to move past this point because I don't want to dwell on it, we can agree, can we not, that Patty Doll has a permanent injury that is a result of death of certain tissue in her brain caused by the stroke?

A. Yes.

Q. And those deficits will remain with her for the rest of her life?

A. Well, some of the deficits that she suffered have already cleared from her own testimony and from others and there may be further clearing. There may have already been further clearing since I haven't read anything in the last three years from her, but I would expect that there would be some permanent deficit just to clarify that point.

Q. And tell me what permanent deficits would you reasonably expect Patty Doll to have?

A. I would expect her to maintain the visual field deficit that she has and it's likely that she will have some speech and language problems for a period of time but it's kind of impossible to predict if 20 years from now she will still have some.

Q. Okay. I want to talk to you about the article a bit, the Kittner article which is titled Pregnancy and the Risk of Stroke. You are referenced as a contributing author, correct?

A. Yes, I am.

Q. What involvement did you have with regard to the publication of this article?

A. I had considerable involvement. The project of which it's a part was a part of the stroke center. The project itself was headed by Dr. Kittner, but since I was in charge of the principle investigation for the stroke center, it was my responsibility as well as a sort of overseer of all the projects.

I was involved with all of the basic

development of the project including discussion with NIH before it was funded. I was involved in getting the funding. I was involved in doing the project. I was involved in the analysis. I was involved in the write-up.

If would you like to know why I am a contributing author and not a regular author, we were originally all listed and I notice I am still listed that way on my curriculum vitae as an author. I think my name was somewhere in the middle and the New England Journal has a policy of only having, I think, 12 authors -- whatever is actually there, and so Dr. Sherwin, the other person who's listed as a contributing author called me and said, Look, we're old guys. It doesn't make any difference whether we are actual authors or contributing authors. How about us going to the bottom because all the other people can use this in getting promotions and so forth and I agreed with him.

Q. That is sole reason why you are not listed right below the title?

A. Oh, I wouldn't be the first author.

Q. Well, in the paragraph below the title with the other named people, if you will?

A. As far as I know, that is exactly how it happened, and as far as I know, that is the only reason.

Q. Do you have the protocols for which patients were included and which were excluded?

A. With me today, no.

Q. Do you have them?

A. I could get them I'm sure. They are not in my office. They are in Dr. Kittner's office.

Q. Okay. But it's something that you could obtain?

A. I'm not quite sure what you mean by protocol for patients that were included.

Q. Well, I presume that any time you do a research project of this magnitude, that there are certain protocols that are followed in terms of chart review and --

A. Yes.

Q. So I'm asking where those protocols would be that were followed in the process of doing the study?

A. Well, the project is over now and I assume that if the protocols exist more than descriptions in papers, that they would be in Dr. Kittner's office and the data would be there as well.

Q. You don't have, not on you obviously, but in your control and possession the actual data from the study?

A. No, I don't. I mean, I was in charge of the stroke center which encompassed three projects of which this is one and it was Dr. Kittner's specific responsibility to carry out and keep the records and so forth and he did that.

Q. What were the other two projects?

A. There was one project on drug use and abuse by Dr. Sloan as the principal investigator of that project and my own project on progression of stroke,

Q. Those two were not in pregnancy, were they?

A. We would include pregnant people in either study and I think, in fact, one of the patients in the paper, the Kittner paper as you call it, wasn't using cocaine and that patient certainly would have been included in -- if it was in this hospital certainly would have been included in Dr. Sloan's project about drug use.

Q. The drug use and abuse project, however, wasn't limited to patients that were pregnant or postpartum patients?

A. Absolutely not.

Q. The definition of postpartum according to this article or according to your definition is how many weeks?

A. Well, it does vary from different authors but we use six weeks which I think is sort of standard. Six weeks from delivery.

Q. And what is your opinion as to the incidents of stroke in women suffering -- or after a

normal delivery in the postpartum period?

A. The risk is about one in ten thousand, something of that sort.

Q. And what is the risk of stroke in women that are not in the postpartum period?

A. You mean with no or who are also not pregnant?

Q. Right.

A. It's roughly one-eighth of that.

Q. What is the risk of stroke for women that are pregnant?

A. Well, I would have to look at it right here. That's the base rate and I would actually have to look it up.

Q. Is it reflected in the article?

A. Yes. It's about -- it's a little less than the risk of people who are not pregnant: seven-tenths of the risk of women who are not pregnant of the same age.

Q. Does the article itself, Doctor, does it specifically address the increased risk associated

with c-section deliveries as opposed to vaginal deliveries?

A. I'm unaware of an increased risk due to c-section.

Q. Did this article in any way deal with an analysis as to whether or not patients were at an increased risk of suffering stroke during the postpartum period that had had a c-section delivery as opposed to a vaginal delivery?

A. No.

Q. Did this article address patients that had placenta previa in terms of the increased risk of stroke in those patients as opposed to patients that had normal vaginal deliveries without any problems with placental delivery?

A. No.

Q. Did this article in any way attempt to differentiate breach presentations from normal presentations in pregnancy as it related to the increased risk of stroke in the postpartum period?

A. No.

Q. To your knowledge, have there ever been any studies that have attempted to evaluate whether or not a patient that is delivered by cesarean section was at increased risk of stroke over vaginal delivery?

A. I'm not aware of any.

Q. Of the women in the study that suffered stroke in the postpartum period, how many of them were heavy cigarette smokers?

A. Would you like me to look it up?

Q. Please.

A. It actually doesn't list it for the postpartum period alone. It's a -- whether it's related to pregnancy or not which would include those doing the pregnancy, but the 29 percent of those with cerebral infarctions related to pregnancy were -- had current cigarette use compared to 43 percent of those who had strokes, ischemic infarctions who were not pregnant.

Q. Can we agree, though, that the study does not indicate -- this particular study does not

address stroke in the postpartum period as it relates to the number of women that were heavy cigarette smokers that suffered stroke during the postpartum period, it doesn't differentiate it?

A. From the postpartum during the pregnancy, they are not separated out in the table given in the paper.

Q. And do you know how the numbers divide based upon the study in terms of those who were heavy cigarette smokers that suffered stroke that are in postpartum versus during pregnancy?

A. No, I do not.

Q. How many of the women that suffered stroke in the postpartum period had rheumatoid arthritis?

A. None that I'm aware of.

Q. How many had lupus?

A. None that I'm aware of.

Q. Does the article address those issues --

A. Now, let's see.

Q. -- in the postpartum period?

A. Well, it does address them in terms of this table where if only one patient is identified with carotid dissection and they had their stroke in the postpartum period, then it identifies one patient as having a carotid dissection in the postpartum period.

Q. The study itself that we're referring to covered the period of 1988 to 1991 only, correct?

A. Yes.

Q. And it covered an area in Baltimore, Maryland and the Washington area only, correct?

A. Well, and the counties in between so it's both rural and city areas.

Q. Okay. And as I looked at the article, it appears that there were two racial categories, correct?

A. Yes. White and non-white.

Q. And the non-white, as I understand it from reading the article, 88 percent of the non-whites were black, correct?

A. Well, I would have to do the

calculations. It says 57 percent of the group were white and 38 percent were black, four percent Asian and then one percent were from other racial and ethnic groups. I don't know if that constitutes 88 percent of 43 percent.

Q. It says how many were Asian?

A. It says four percent were Asian.

Q. Do you know how many were Oriental?

A. No, I don't, but I would guess that they probably were all Oriental based on what I know of the area. We have very few Asians here who are not Oriental.

Q. But you are, in fact, guessing when you say that?

A. Yes.

Q. Okay. In the study that was done, what was the duration of stay in the hospital following a normal delivery?

A. In this study?

Q. Yes.

A. I'm not sure that's in the article.

Q. What is the duration of stay in the hospital following an uncomplicated cesarean section?

A. A few days. Are you asking me in general now? I'm not sure under what context you're asking the question.

Q. In the context of this article when you looked at patients that were following a normal delivery in terms of the postpartum period, did you look to see what the duration of stay in the hospital was?

A. I'm sure it was looked at in the study but I don't recall any of the data.

Q. What about -- did the data attempt to differentiate uncomplicated from complicated cesarean sections in evaluating any of the postpartum strokes?

A. A lot of detail was looked at but I don't specifically remember that that analysis was done.

Q. And can you tell me how many patients in

this study experienced a stroke within 12 hours during the postpartum period but within 12 to 24 hours after undergoing further surgical intervention to remove a foreign body from their abdomen?

A. I'm not aware that any of them suffered a stroke under those circumstances.

Q. You've seen the CAT scan that was taken in July -- I'm sorry -- in September of 1994 while Mrs. Doll was in the hospital, correct?

A. In September of '94?

Q. I'm sorry -- November of '94.

A. Yes.

Q. And that film shows evidence of hemorrhagic transformation?

A. Yes.

Q. Do you have an opinion as to what caused the hemorrhagic transformation?

A. Well, hemorrhagic transformation as seen by CT or MRI means that there is blood -- enough blood in the stroke to show up. At autopsy you can sometimes see small amounts of blood that aren't

enough to show up on the test. The cause of hemorrhagic transformation really isn't well known. It's not specifically associated with emboline.

Q. How many of the women that are in this study experienced ischemic strokes with subsequent hemorrhagic transformation?

A. I know of at least one who did.

Q. You just said that hemorrhagic transformation normally does not occur in an embolic stroke?

A. No, that is not what I said.

Q. I'm sorry.

A. I said it's not an indicator of an embolic stroke.

Q. Okay. If an embolus is the cause of a stroke, in order for there to be hemorrhagic transformation that occurs, does a sufficient period of time have to evolve for the hemorrhage to take place after the embolic event occurs?

A. That's a difficult question to answer because although some hemorrhages can occur late in

the stroke databank which was collected at four centers, this is one of them, in the mid '80s, four percent of the patients with ischemic infarction presented with hemorrhagic transformation already on the first CAT scan it was present.

Q. What is the mechanism of usual infarct during a normal postpartum state?

A. Could you give me the question again? I'm sorry.

Q. What is the mechanism that leads to an infarct based upon this study in the normal postpartum state?

A. Well, they are listed in a table. You can see what is postpartum and what occurred during the pregnancy. Preeclampsia, eclampsia was two, primary vasculopathy was two, carotid dissection was one, cortical vein thrombosis was one, post-hepatic vasculitis was one, indeterminate cause was three.

Q. Okay. Did --

A. That's for the infarct, not the hemorrhages.

Q. Right. Of the women that suffered a postpartum stroke, did any of the women that you're aware of experience or undergo surgical intervention of any type in between the delivery of their child and the date that they experienced the stroke?

A. I'm not aware of that.

Q. Can we agree that the events that occurred in Patty Doll's situation between the date of her c-section and her clinical course including undergoing a laparoscopy and a laparotomy and then the stroke is a fact pattern which is dissimilar to the fact patterns described in the Kittner article?

A. Well, to the extent that every stroke is a different fact pattern and whatever a fact pattern is, I assume you mean by a number of facts to have occurred to people, so each stroke is different.

Q. But, Doctor, to be specific, Patty Doll was a sick patient when she came into the hospital prior to her stroke in Saint Luke's Hospital, correct?

A. Yes, I think she was ill, yes. That is

why she was admitted.

Q. And she had to -- she underwent surgery?

A. Yes, she did.

Q. They then converted the laparoscopy to a laparotomy to remove the foreign body from her abdomen, correct?

A. Yes.

Q. There were iatrogenically caused cirrhosal tears to the bowel at the time of the removal of the foreign body, correct?

A. In order to remove the foreign body, yes.

Q. And she had 700 CCs of blood loss at the time of the surgery, correct?

A. I think so, yes.

Q. How many patients in the Kittner study had the same presentation that Patty Doll had that suffered postpartum strokes?

A. I seriously doubt that any of them had exactly that pattern but then many of them -- every stroke is different. They have different patterns.

Q. How many of them had any patterns remotely similar to Patty's in terms of having to undergo surgery and having a 700 CC blood loss within two-weeks after having had a c-section?

A. I'm not quite sure what you mean by remotely.

Q. Well, that have any similarity?

A. Well, one of the patients with a hemorrhage ..ad to have a c-section.

Q. What but what was the cause of the hemorrhage?

A. I've actually forgotten this.

Q. Okay.

A. Right here it says that the cause of the hemorrhage was indeterminate in the patient who had a cesarean section.

Q. Okay. Doctor, in the article on page 773, left-hand column, second to last paragraph starting with the extremely high relative risk of stroke, you see that?

A. Yes.

Q. And I'm going to read into the record, Extremely high relative risk of stroke during the postpartum period suggests a causal role for the large decrease in blood volume or the rapid changes in hormonal status that follow a live birth or stillbirth perhaps by means of hemodynamic, coagulative, or vessel wall changes. What is meant by hemodynamic, coagulative, or vessel wall changes?

A. Well, each has a different meaning.

Q. Okay.

A. But hemodynamic in this case would mean things like blood pressure and the flow of blood so that a major drop in blood pressure under certain circumstances might be associated with an infarct.

Elevation of blood pressure as in eclampsia, preeclampsia as talked about in the next sentence and also elsewhere in the article may be associated with stroke-like events and actual strokes as well.

Coagulative means blood coagulation and that is the clotting of blood. And vessel wall

changes here would be some changes that might occur with -- we would probably be thinking of changes that might occur with edema in the wall of the blood vessel perhaps with changes in the endothelial cells and so forth.

Q. The blood volume, the decrease in blood volume, is that referring to at the time of the delivery?

A. No, it goes on for some period of time after the delivery. In order to supply the baby with nutrients before birth, it's necessary for the woman's body to have an extra large supply of blood and it has to get blood through its half of the placenta, and once the baby is born, it's not necessary anymore and so there is a decrease over time.

There sometimes is blood loss with the delivery, but this is overall despite that without any specific blood loss at the time of delivery there is a decrease in blood volume.

Q. If there is a large blood loss, a bloody

delivery, does that increase the relative risk of stroke during the postpartum period?

A. Well, you would have to tell me what you mean by a large loss and under what circumstances.

Q. Well--

A. In someone who loses a pint or two of blood who has or maintains their blood pressure and has no particular other problems, no, probably not a risk factor.

Q. Did you read the description that Dr. Gyves gave concerning the bloody field that existed at the time of the cesarean section?

A. I believe so, yes.

Q. And would you believe that Patty would be at a relatively higher risk of stroke during the postpartum period because of the nature of that, the bloody field in the cesarean over someone that had had a normal delivery?

A. I don't think so.

Q. Okay. Patty had more coagulative and vessel wall changes secondary to the fact that she

had to undergo a laparotomy -- laparoscopy and then a laparotomy to remove the foreign body, would you agree with that?

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

Q. Why?

A. Because I don't agree. I don't think that is a true statement.

Q. Tell me why.

A. Because I don't think it is a true statement.

Q. Well, when one has --

A. You put a combination of things together. Why don't you ask me about each item.

Q. Well --

A. That would be much easier to answer.

Q. I will try to ask it, Doctor, so that you can answer it but I thought it was answerable in that fashion but I guess not.

When one undergoes surgery and loses 700 CCs of blood, is there a coagulative change that is taking place?

A. Boy, not necessarily because of the blood loss, no.

Q. What about vessel wall changes?

A. Vessel wall changes at the site of the surgery, certainly, but that's not what type of vessel wall changes we were referring to in the article.

Q. Okay. Did any of the women in your study have any type of inflammatory mass?

A. Not that I'm aware of.

Q. Did any of the women in your study have increased white blood counts?

A. I'm not sure. Not that I'm aware of.

Q. What is your understanding as to the presenting manifestations of Patty Doll's impending stroke?

A. I'm not sure there were presenting symptoms before the stroke of the impending stroke.

Q. Well, were there presenting manifestations of Patty Doll's -- what were the presenting manifestations when she had the stroke?

A. Well, I think she was not very communicative and it was probably difficult for them to tell in the recovery room and certainly difficult to tell in retrospect exactly when the stroke occurred, but during that day, she was not very communicative and finally it was determined that she was weak on one side and not speaking on a neurologic sense not because she was -- I mean, another possibility would be that she had gotten a larger dose of sedatives and wasn't communicating for that point, so I think the lack of communication was probably the first manifestation in retrospect.

Q. The actual diagnosis of stroke wasn't made until later that afternoon or early evening, correct?

A. That is my understanding, yes.

Q. If the stroke had been diagnosed earlier in the day, around 10:00 when she wasn't as communicative and wasn't as responsive as she had been before, would there have been any intervention that could have been used to minimize the extent of

the damage caused by the stroke?

A. I think it's very unlikely.

Q. Why is that?

A. Because nowadays we use a TPA and that wasn't available in 1994, but even today a person who's just had an operation or delivery within two weeks is not eligible for the use of the drug. And other than that, we don't have treatments that we know are effective.

Q. So you're not critical of anyone in terms of their response at Saint Luke's Hospital then once she started to become confused and not as responsive in terms of their efforts to arrive at a diagnosis and to treat the condition?

A. You know, you're always critical in the sense that, Gee, if we'd been there, maybe we could have done more but I honestly don't know of what could have been done if they had made the diagnosis sooner.

And I would say that in a recovery room situation, this sort of problem is a tough one

because of the possibilities that they've got a bit more anesthesia or a little more sedative drug and they are not responding because of that problem as opposed to having had a new stroke so I'm not distressed by that.

Q. Okay. Was Mrs. Doll in your opinion dehydrated?

A. I don't know that. I noticed in one of the depositions that it referred to evidence that she was dehydrated. I think she mentioned a nurse's note. I was unable to specifically find that nurse's note myself describing anything about her being dehydrated.

Q. There was a pre-anesthesia assessment that describes her as appearing dehydrated.

A. I couldn't see that or it was distorted on my page. I looked specifically for it and I could not find it. If there was, then someone saw something that made them think she was dehydrated.

Q. Of what significance if any would a state of dehydration be?

A. If it was a pre-anesthesia note, then it would probably be important to run enough fluids to make sure she was not dehydrated.

On the other hand, it depends on just what they saw, a dry tongue or skin that looked slightly dehydrated is one thing and other evidence might be something else.

Q. Is it your opinion that Patty Doll did not have a patent foramen ova'le?

A. It's my opinion that none was found and since none was found, we can't say that it was present.

Q. Does the negative TEE rule it out?

A. It makes it very unlikely or if present is rather small and less likely to be a cause of a stroke.

Q. You've not been asked to provide any opinions concerning the standard of care provided by Dr. Gyves or Dr. Samudio at the time of her c-section, have you?

A. **No.**

Q. And I take it you're not going to be testifying on issues of standard of care at the trial of this case?

A. No, sir.

Q. Okay. Doctor, your hourly rate for today's deposition is how much?

A. $250 an hour.

Q. And what will you be charging when you come to Cleveland to testify?

A. The same, but if I come there for a whole day, I'll have to charge -- you know, if it takes me a whole day because I only testify for 30 minutes or two hours, I'm going to charge for the whole day.

Q. There are different types of strokes, correct?

A. There certainly are.

Q. There is an ischemic stroke?

A. Yes.

Q. And a hemorrhagic stroke?

A. Yes.

Q. Are there other types?

A. Well, there is a hemorrhagic ischemic stroke, so some of us tend to use the term ischemic for all types that are caused by blockage of a blood vessel and a hemorrhage, an intercerebral hemorrhage or a subarachnoid hemorrhage for those which are primarily due to blood. We just to try to separate the two since they are confusing terms, and I noticed one of the depositions got confused about that.

Q. You describe in your report this as being an ischemic stroke?

A. Yes.

Q. Was this embolic in origin in your opinion?

A. In my opinion, I can't say.

Q. What are the various mechanisms that can cause an ischemic stroke?

A. The commonest cause of ischemic strokes as we have been able to judge in looking at large numbers in sequence in our hospital and in the

stroke databank, the commonest cause that we could identify was embolic and it's identified by finding the source where the embolism came from.

Other causes would be atherosclerotic which might be direct; that is, closure of a blood vessel or by a clot forming on the surface of an atherosclerotic plaque and going into the brain.

Another mechanism thought of as a mechanism is the lacunar-type stroke because they are so different although that doesn't tell you the mechanism. It's just a small vessel stroke due to a small vessel disease. About a third of patients, about the same number that have embolic as a cause, we cannot determine the cause even if we studied the patient very thoroughly.

And there are about five percent overall of patients with stroke such as in the postpartum state or associated with drug use where there is a more specific cause for it.

Q. In a patient that you believe -- strike that. In an ischemic stroke, there are

circumstances where you believe that there -- that the cause was an embolic event but you're just not able to prove it to a certainty based upon the testing that is performed: is that correct?

A. Where you have an internal belief, some people do that, yes.

Q. You seem somewhat --

A. I wouldn't call that an embolic stroke. If I just kind of thought it was an embolic -- in other words, let me explain that because I think if I saw someone who seemed to have had an embolic stroke based on the type of stroke it was and I was working the patient up, then I would look extra hard. I would certainly try to get a transesophageal echocardiogram because it's the best way to look at the heart and some other things to look for a source for emboli.

If you're asking me after all is said and done whether all the evidence is in, if it looks like an embolic stroke but you haven't found a source for emboli, that's not an embolic stroke. I

mean, how can you call it an embolic stroke?

Q. Well, when I asked you before whether or not this was embolic in origin and your answer was I can't say --

A. I can't say that's an embolism, yes.

Q. Could you rule out an embolism as being a cause in this case?

A. You can never rule it out.

Q. And I guess that is my question.

A. You can never rule it out but you have to -- to say something is an embolic stroke, you have to have some evidence for it. I mean, otherwise it's total speculation and you just sort of say, Well, this one is due to emboli and this one is due to something else and that is not a very good way to decide what the cause of a stroke is.

Q. Was this stroke a hemorrhagic stroke in your opinion?

A. That is, there was hemorrhage into the infarct, yes.

Q. But was that the presenting -- was

hemorrhagic -- there was bleeding into the stroke but was that the primary cause of the stroke?

A. No. I think it was an ischemic stroke believed to be due to blockage of a blood vessel without seeing such and that there was hemorrhage into the ischemic infarct.

Q. And what caused the blockage of the blood vessel?

A. We don't know. It could have been embolic material. It could have been a thrombus that occurred at the site.

Q. Why wasn't there any evidence either of an embolus at the site -- embolus or a point of origin that could be determined or why wasn't there evidence of a thrombus at the site?

A. Well, by the time we usually work patients up, and I would have to look and see when the -- well, certainly by 1996 and the fact that there wasn't any evidence there means that if it was a clot, it was dissolved whether the clot occurred there or somewhere else.

Q. So if this was an ischemic stroke with a hemorrhage thereafter, the cause of the blockage of this blood vessel could have been an embolus or a thrombus notwithstanding the fact that we have no proof of their being a thrombus and notwithstanding the fact that we have no proof of a source for the embolus?

A. Right, and that's based on evidence from other patients where if you do work them up very quickly, you can find evidence of blockage and that is why -- and follow the patients and the blockage will often disappear, so in a patient such as this not worked up specifically to look for where the blockage is because it wasn't important in what they were going to do, we assume that there was a blockage.

Q. Your testimony in this case based upon your review is that she was not worked up at the time to determine either?

A. I don't think the work-up was designed to find the blockage within a matter of hours after

the stroke, primarily because there was nothing they could do about it.

Q. So the fact that it wasn't done within hours of the stroke and perhaps it was done days after the stroke, that reduces the likelihood of finding either the thrombus or the source of the embolus?

A. Not the source of the embolus, usually, but the thrombus -- or the embolus in its site where it ended up: the blockage of the blood vessel.

Q. So as you read the deposition of Dr. Lerner and you saw that they were not able to determine what caused this ischemic stroke, that is not surprising, is it?

A. Well, at least a third of the patients that I've been working up, I'm not able to find -- about a third, I am not able to find a cause.

Q. Because there is no physical evidence at the site when you get in to do your investigation?

A. And there is no source for emboli that's reasonable and there is no evidence of

atherosclerosis and there is no evidence of all the other things that can cause a stroke.

Q. Now, do you believe that Patty Doll had small vessel disease?

A. Well, this small stroke that is anterior to the larger stroke that she had is typical of what you see with small vessel disease.

Q. So was she at increased risk of suffering a stroke because of having small vessel disease?

A. If she had small vessel disease, she probably has some blood vessel disease -- larger blood vessel disease as well.

Q. I'm asking because you're the one that referred to this particular stroke and I'm asking was she at increased risk?

A. Let me just try to clarify something. I raised the point that it could be simultaneous with the larger stroke or it could have predated. If it was simultaneous, then you try to think of a mechanism that could cause both strokes at the same

time and that is a very unusual event but you would have to say, well, it doesn't indicate anything more than the fact that there is strokes there.

If it predated it, then you would have to say, well -- if you knew it predated it and I don't know if it was predated, then you would have to say, well, there is evidence of some vascular disease here before the larger stroke occurred.

Q. Are you able to tell me the most likely pathogenesis that led to Patty Doll's stroke?

A. And prove to you that that is the pathogenesis?

Q. To a reasonable degree of probability.

A. Well, I think the investigation was fairly complete and I don't see that they identified a mechanism for the stroke. And that being the case, I would have to say that it's clearly in the postpartum time. We know that's a cause of strokes and that's the major mechanism -- the major cause that we can see.

It doesn't tell you the mechanism

because we don't know the mechanism. As we read the sentence in the paper, this is looking at the possibilities and not what we know about the postpartum period that leads to stroke and that's some of the speculation about it.

Q. So when I ask you again whether or not you can state to a probability as to the most likely pathogenesis, whether it be cellular or physiological events that led to Patty's stroke other than she was in the postpartum state, can you tell me what the most likely pathogenesis was?

A. No. Neither can anyone else.

Q. I'm not asking about anyone else.

A. I know but I stuck that in there.

Q. But that wasn't my question.

A. Well, I answered it anyway.

Q. But it wasn't my question, was it? Dr. Price cannot tell me what the most likely pathogenesis was that led to Patty's stroke.

a. And neither can anyone else.

Q. Doctor, would you please answer my

question?

MR. MOSCARINO: He can say it that way. Why can't he say it that way? Obviously that's our theory of the case that it's not -- go ahead and answer.

BY MR. MISHKIND:

Q. Doctor, can you tell me -- this is my question and let's see if you can answer it. Can you tell me what the most likely pathogenesis was that led to Patty Doll's stroke?

A. In terms of probable cause?

Q. Yes.

A. Neither I nor anyone else can.

Q. Can you, Doctor? I don't want to know about anyone else.

A. Neither I nor anyone else can.

Q. You won't answer the question, will you?

MR. MOSCARINO: He has answered it.

MR. MISHKIND: Did I ask you --

THE WITNESS: That is my answer to the question. I've answered it about six times. You

want me to go six more?

MR. MISHKIND: No, Doctor, I'd like you to answer it once and only once the way it's directed to you.

THE WITNESS: I did answer it.

BY MR. MISHKIND:

Q. Could you, Dr. Price -- I don't want to know about anybody else, but can you -- can you answer this question without referring to other people? Can you tell me what the most likely pathogenesis was that led to Patty Doll's stroke, yes or no?

A. I can tell you what I think is the most likely pathogenesis because that is what you just asked me.

Q. The most likely pathogenesis that led to Patty Doll's stroke, that's what I've been asking you.

A. No, you put a condition on it as a probable cause. You've asked me with probable cause and you asked me without and I just answered the one

without.

Q. I'm asking to probability, can you tell me yes or no?

MR. MOSCARINO: I think this has been asked and answered.

THE WITNESS: It's been asked and answered and you've not asked me a question.

MR. MISHKIND: Doctor, are you going to answer the question?

THE WITNESS: I have answered the question repeatedly.

MR. MISHKIND: But you've chosen to add in the qualifier.

THE WITNESS: That is my answer.

MR. MISHKIND: Okay. Doctor, that is fine.

BY MR. MISHKIND:

Q. Is a patient at increased risk of stroke following major abdominal surgery?

A. Depends on what happens during the surgery.

Q. Major blood loss?

A. You mean any major abdominal surgery?

Q. A major abdominal surgery involving open laparotomy where there is 700 CC blood loss, is that patient at increased risk of stroke?

A. I don't think we know that.

Q. Would you agree that Patty Doll was at increased risk of suffering a stroke by virtue of having had the decreased hematocrit and hemoglobin prior to having her laparoscopy and the laparotomy then having had the laparoscopy, the laparotomy, the 700 CC blood loss, was she at increased risk over someone that did not undergo that kind of surgical intervention and did not have that kind of blood loss postpartum?

A. I don't think so.

Q. Okay. Why not?

A. Because I don't think so.

Q. Okay.

A. What else can I say?

Q. If that's going to be the explanation

that you give, Because I don't think so --

A. You asked me, Did I think so, and I don't think so.

Q. But I would like to know perhaps from a scientific basis why you don't feel that decreased or volume depletion of 700 CCs after undergoing major surgery to remove a foreign body, why that would not increase the risk to a patient of suffering a stroke after the surgery or perioperatively, if you will, and if your answer is that you don't feel that she is at increased risk over other patients in the postpartum period I will accept that and I believe that is your answer, correct?

A. Yes, specifically related to the blood loss I think as you --

Q. Well, the blood loss and having undergone major abdominal surgery to remove a foreign body. Is it your testimony -- are you going to tell the jury that this patient was not at increased risk of suffering a stroke by virtue of

having to undergo those two surgeries and having 700 CCs of blood loss two weeks following her delivery of her baby?

A. The two surgeries were --

Q. The laparoscopy that was then converted to a laparotomy with an expansion of the incision, the removal of the foreign body, the cirrhosal tear during the removal of the foreign body, was this patient at increased risk for stroke in the perioperative or immediate postoperative period over a patient who is just in the postpartum period that has a normal delivery?

A. Not that I know of.

Q. In the writings that you've done, Doctor, do you ever talk about surgery as being a risk factor for stroke?

A. I don't recall that I have.

Q. Is surgery -- is stroke a potential side effect of undergoing surgical intervention?

A. It certainly is for certain types of surgery.

Q. What about major abdominal surgery?

A. Not as far as I'm aware and except under certain circumstances.

Q. What circumstances?

A. For instance, in someone who has a patent foramen ova'le in which a venous clot can go up through the right heart and transfer to the left heart and cause an embolic stroke, a condition that I think is not going on in Ms. Doll.

Q. You would agree that according to the hospital records when Patty presented to Saint Luke's, she had umbilical abdominal pain?

A. She had abdominal pain, yes.

Q. And she was at least according to one entry had the appearance of being dehydrated?

A. As you told me.

Q. Okay. And she also had an elevated white blood count on presentation?

A. Yes.

Q. Presentation to the emergency room, correct?

A. Yes.

Q. She had a diagnosis of small bowel obstruction, correct?

A. Yes.

Q. And she also was nauseated and there was a history of her having a recent bout of vomiting, correct?

A. Yes.

Q. And that small bowel obstruction, no question in your mind from your review was caused by the foreign body that was left inside her at the conclusion of the c-section, correct?

A. As far as I'm aware, yes.

Q. And certainly you wouldn't quarrel with me when I say that Patty Doll, in all likelihood, would not have needed to have a laparoscopy and a laparotomy had she not had a foreign body not left inside her at the conclusion of her c-section?

A. I would agree with that.

Q. Was there an inflammatory response caused in Patty Doll's body by the foreign body?

A. Apparently there was, yes.

Q. And can an inflammatory -- can the foreign body that leads to an inflammatory response increase a patient's hypercoagulability?

A. In the abdomen.

Q. Can it cause a state of -- a state of increased hypercoagulability?

A. I don't think it can. I don't think that is known.

Q. So you would then disagree with Dr. Millikan and Dr. Lerner and Dr. Marguiles who are all of the opinion that the inflammatory response caused by the foreign body caused an increased state of hypercoagulability in Patty Doll?

A. It depends on which time you're talking about. Dr. Lerner's statement about the cause was because he also said that he didn't know what the cause was.

Q. You read in his deposition, did you not, that he stated that the inflammatory response caused by the foreign body caused an increased state of

hypercoagulability?

A. I think that is pure speculation.

Q. So you would disagree with him, correct?

A. Yes.

Q. And would you disagree with Dr. Millikan who also holds that opinion?

A. Well, both he and Dr. Marguiles were thinking maybe there was some infection and infection is associated with an increased risk of stroke.

Q. Okay. And do you feel that Patty had an infection?

A. No. The infectious disease experts and Dr. Lerner himself stated that there was no infection.

Q. She had a positive blood culture, correct?

A. She had one positive blood culture, yes.

Q. And what was that culture?

A. I think it was strep viridans as I recall.

Q. Did you also note that she had more than one reported elevation of her WBC as well?

A. Yes.

Q. Dr. Price, do you believe that Patty Doll was septic?

A. No.

Q. What is DIC?

A. Disseminated intravascular coagulation.

Q. And you've seen in reviewing the case that several of the experts have opined that she had a variant of DIC?

A. Sort of I think was the words I remember.

Q. Okay. Do you disagree with the opinion that she had DIC?

A. Yes.

Q. Tell me the basis that you would rule out DIC?

A. Well, the basis that they used for -- you just don't imagine that DIC occurs. You must have evidence for its presence.

Q. Okay.

A. One thing would be evidence of multiple areas of blood vessel occlusion in multiple areas of the body. She doesn't have that. Another would be changes in the blood components that would -- could not be due to something else and would, therefore, be due to change in coagulation properties of the blood.

They cited an elevated D-dimer. D-dimer is the measurement of the components of a clot after the clot has been broken down. It doesn't tell you that the blood is hypercoagulable. It tells you that you've had some clots that are broken down.

Now, she had just undergone surgery and two weeks before that delivered by cesarean section. I don't think it takes very much imagination to realize that she had multiple clots in small blood vessels as a result of both of those and that's why clots were breaking down.

Q. She had multiple clots as a consequence of having undergone the surgery to remove the

foreign body?

A. And also for the cesarean section.

Q. Right, but most close in time to the stroke which would be a cause of clot formation would be the surgery --

A. The clot formation at the sites of the surgery and the repairs to the bowel where there was some cirrhosal damage.

Q. Okay. There is some reference to a pelvic thrombosis and studies were done to determine whether or not there was pelvic thrombosis?

A. Yes.

Q. And what is your understanding of the significance first to pelvis thrombosis and what the study showed?

A. Well, again, as a cause of stroke, if you have pelvic thrombi and a patent foramen ova'le, that is a hole in between the heart that allows a clot to come up on venous side and transfer from the right side of the heart to the left side of the heart which would be abnormal or unusual without a

patent foramen ova'le and then go up to the brain and cause a stroke, then pelvic clots would be an important finding until you -- in terms of a cause of stroke.

I think the person who interpreted is a vascular surgeon and came to the conclusion that there were no pelvic clots, and I'm not an expert on the presence or absence of pelvic clots. I take that as it's written.

Q. Have you cared for women in the postpartum period that have suffered strokes?

A. Absolutely.

Q. How many?

A, Probably less than 20, less than 15. I can think of five right off the top of my head.

Q. How many of them were ischemic strokes?

A. Most of them were ischemic strokes. I'm likely to be referred ischemic strokes and not -- I was likely to be referred ischemic strokes and not hemorrhages.

Q. I'm sorry?

A. I was likely to be referred ischemic strokes instead of hemorrhages.

Q. Why is that?

A. Because hemorrhages in this hospital are often seen by the neurosurgeon and covered by them.

Q. When Dr. Millikan testifies that he believes that she had an embolic event that and the embolus lodged in the middle cerebral artery and he testifies that to a probability that that's what occurred causing her ischemic stroke, I take it your response is you disagree with Dr. Millikan on a probability basis?

A. I disagree and I think he has no evidence to make that statement. I mean, people can express an opinion as to anything.

Q. Well, certainly neurologists in evaluating the cause of a stroke in a clinical setting can disagree as to the cause of the stroke, correct?

A. That is true. It's amazing when all the facts are known, how much agreement there is. I'm

regularly involved in this exercise and it's not difficult to come to an agreement.

Q. So what you're saying is that all -- after all the facts are known, if neurologists are looking at the same set of facts, they are all going to come to the same agreement?

A. Well, I cited three projects that I'm currently involved in. I could include the one that led to the Kittner project and I think under the circumstances, the only cause identified would be the postpartum state. That would be -- and that would be agreed upon by most people.

Q. Doctor, in the situations, the 15 or less that you've had in postpartum, were you able to determine a cause or mechanism for any of those strokes?

A. Well, the last one I saw was a woman with venous infarction which was also bloody. Some yes and some no. Just as in the paper, at least as many patients who are pregnant or in the postpartum state were unable to state any other cause or

mechanism at least as often and probably more often than in patients who are not pregnant.

Q. Doctor, are you going to testify at trial before the jury in Cyyahoga County that the stroke that Patty Doll suffered was in no way related to the retained surgical tape or pad that was left in at the time of the c-section?

A. It would be hard to say absolutely no way. I think it's a possibility.

Q. Are you going to tell the jury that the stroke that she suffered was not causally related to the fact that she had a foreign body that was left in her that caused an inflammatory process that led to small bowel obstruction that led to laparoscopic surgery followed by laparotomy to remove the sponge and a 700 CC blood loss and then the stroke occurred some 12 to 18 hours after that, are you going to say that there is no causal relationship between the events that were caused by the foreign body and the subsequent stroke?

MR. MOSCARINO: Objection to the form of

the question. Go ahead.

THE WITNESS: Not that I'm aware of.

BY MR. MISHKIND:

Q. So it's just purely coincidental that she happened to suffer the stroke in light of all of these things that went on from November 2nd when the foreign body was left in her and then the abdominal pain that she had, the bowel obstruction that occurred, the surgeries that were necessitated and the blood loss that occurred, all of those things are just coincidental as it relates to the causation of her stroke in this case?

A. I wouldn't say that.

Q. Okay. Tell me why I'm wrong.

A. Well, one of the surgeries was thought to be necessary based on the placenta previa, that is the cesarean section and she was -- had been pregnant when she was in the postpartum state so, of course, as I believe, that's related to the cause of her stroke.

Q. But what I'm saying to you, Doctor, is

you're going to tell the jury that had the cesarean section been done without a foreign body left in and with all the sequela that occurred as a direct result of the foreign body being left in, that more likely than not, she would have suffered the stroke anyway?

A. I think it's very likely that she would have.

Q. And you're going to state that to a reasonable degree of probability?

A. I think so.

Q. Was this an arterial stroke or a venal stroke?

A. It appears to be arterial. It could be venous.

Q. Aren't most postpartum strokes or ones that are described as postpartum strokes, aren't they venous in nature?

A. No.

Q. They are arterial in nature?

A. Yes.

Q. Do most postpartum strokes involve the middle cerebral artery?

A. Well, most strokes in general -- most ischemic strokes involve the middle cerebral artery, so that's true also for postpartum as best I can remember.

Q. And are you going to tell the jury that Patty Doll was not at increased risk of suffering a stroke during the postpartum period over what you believe already to exist by virtue of just being in the postpartum period by virtue of having had a foreign body left in her and all of the sequela that occurred between the date of the c-section and when she had the stroke?

A. I don't know that she was at increased risk above the postpartum state.

Q. Well, are you going to tell the jury that your opinion is that she wasn't?

A. Yes.

Q. Okay. Are you aware of situations where a foreign body that has been left in someone has set

off a pathogenic process leading to a stroke?

A. I certainly am.

Q. What are those situations?

A. Well, the one was mentioned in one of the depositions, perhaps Dr. Marguiles, of a bullet. We are certainly aware of those particularly when they enter the arterial system and can move around and cause a stroke. Also valves put into hearts which are non-human valves, they're pig valves or plastic valves with balls are major sources of emboli for a stroke.

Q. Can you have an increased state of hypercoagulability caused by an inflammatory process that can cause a state of hypercoagulability within the arterial process in the brain?

A. Could you restate the question? I thought you were heading one way.

Q. Could you have an increased state of hypercoagulability -- actually, why don't you read the question back. I'm not sure I can phrase it as articulate as I did before.

(The reporter read back the referred-to portion of the record.)

THE WITNESS: Okay. I understand your question. Under certain circumstances.

BY MR. MISHKIND:

Q. Can hypercoagulability cause a patient to suffer a stroke?

A. Definitely.

Q. And can you have hypercoagulability that leads to a stroke without having an embolic process take place?

A. We think we can. I'd have to say -- I'd have to qualify that answer without identifying an embolic process took place that is some evidence for it as opposed to a vague opinion that it might be embolic.

Q. But from a scientific standpoint, one can have an increased state of hypercoagulability that leads to a stroke -- leads to an ischemic stroke?

A. Yes.

Q. And that state of hypercoagulability that leads to the ischemic stroke can occur without evidence of an embolus?

A. Yes.

Q. Okay. And that certainly is a reasonable cause and effect scenario, hypercoagulability and a subsequent stroke without any evidence of an embolus?

A. Under certain circumstances, yes.

Q. Okay. And we can certainly agree that an inflammatory mass such as a foreign body can cause a state of hypercoagulability?

A. No, we cannot.

Q. Why not?

A. Because I don't believe that there is evidence that it does.

Q. So that the -- all the experts that have testified that an inflammatory mass can cause a state of hypercoagulability, experts being Dr. Lerner, Dr. Marguiles and Dr. Millikan, you disagree with them?

A. Yes. They are not experts on coagulability, number one, and number two, yes, I do disagree with them and I disagree with Dr. Lerner's final testimony but not his earlier testimony where he said he didn't know the cause.

Q. Well, are you an expert in coagulability?

A. No, I'm not.

Q. What qualifies one to become an expert in coagulability?

A. Some hematologists are experts in coagulability.

Q. Isn't a patient that is in the postpartum state in an increased state of hypercoagulability?

A. We assume that some of them are and that's part of the explanation of what might be the cause of a stroke. It's a speculation.

Q. Okay. And that's the speculation that is contained in the Kittner article?

A. Yes.

Q. But certainly -- well, never mind. In addition to the positive D-dimer, she also had an elevated fibrinogen level, did she not?

A. The first one was normal and the second was about ten percent elevated.

Q. Do you have an opinion as to the cause of elevated fibrinogen level?

A. There are multiple causes. Some people think that it's elevated after some strokes and she was post-stroke when that was measured.

Q. It can also be consistent with an acute inflammatory state, correct?

A. An elevated fibrinogen level might be but it was distant from the stroke.

Q. Patty needed blood transfusions, didn't she?

A. I think she had some, yes.

Q. And her anemia, was that post-cesarean section or was the anemia secondary to the surgical intervention to remove the foreign body?

A. You will have to tell me what you mean

by anemia.

Q. Do you feel that she was anemic?

A. I think her hematocrit was 30 following the c-section which would be anemic by some standards. However, as we've already pointed out, there is a change in the blood volume -- a decrease in blood volume which allows concentration of the remaining blood in the postpartum state and so I don't think that was necessarily considered to be anemic in the sense of requiring treatment.

Q. Was she anemic following the surgery to remove the foreign body?

A. I think her blood hematocrit was in the 20's.

Q. And she needed blood transfusions at that time?

A. I think so, yes.

Q. Can her hematocrit at that level cause hypercoagulability?

A. Probably the opposite. Low hematocrit tends to lead to a low viscosity of blood, viscosity

being the measurement of how think it is; like syrup is thicker than water and the less cellular elements there are in the blood, which is what the hematocrit measures, the less viscous the blood would be and thus would be one way -- one component of coagulability; that is, highly viscous blood is very coagulable and low viscous blood is less coagulable.

Q. Dr. Millikan described some narrowing in the carotid artery. Did you see that?

A. I saw an artifact on the test that he should have recognized as an artifact and it was not read by the radiologist as a --

Q. My question to you was: Did you see the narrowing that Dr. Millikan referred to and your testimony --

A. Of course I have no way of knowing if what I saw is exactly what he was referring to.

Q. But what you saw you interpreted was an artifact, correct?

A. Yes.

Q. Okay. So when Dr. Millikan testifies

that it's unlikely that Patty Doll would have suffered this terrible event, meaning the stroke, if the surgical tape had been removed at the time of her c-section and she had been spared all of the sequela to her body caused by the reaction to the sponge, you're going to testify that you disagree with that opinion, correct?

A. I think so, yes.

Q. You're certainly not ruling out the sequela caused by the inflammatory mass as being a factor that contributed to the stroke, are you?

A. Perhaps you can tell me what sequela you're referring to.

Q. The sponge or the tape being left in, the abdominal symptoms, abdominal pain, the vomiting, the nausea, the need for the surgeries, the 700 CC blood loss, that is the sequela that I'm talking about and my statement to you is: You're not ruling that out as being a contributing factor.

A. It certainly could be.

Q. Okay. But you feel that the most likely

cause is just being in the postpartum state?

A. Well, I think it's the cause for which we have the most evidence.

Q. And in Patty Doll's case, what is it specifically about her postpartum state that puts aside and doesn't -- strike that.

What is it about Patty Doll's situation that causes you to conclude that her stroke was a postpartum stroke as opposed to being caused by her body's reaction to this inflammatory mass?

A. Because I don't believe that it's been shown that the body's reaction to an inflammatory mass is a cause of strokes in this location.

Q. But yet you're not able to tell me what the -- other than this most likely being an ischemic stroke, you're not able to tell me what caused this ischemic stroke?

A. Other than the postpartum state.

Q. Okay. And when one refers to the postpartum state, what is it exactly about the postpartum state that causes that label to be placed

on being a cause of her stroke?

A. Well, they're labeled postpartum because they are within, based on our evidence and the usual way, they are within six weeks of delivering a baby. That is the definition of the postpartum state.

Q. And it's based upon the study that we've talked about -- the Kittner study -- is what you are relying on to opine that her stroke was a postpartum stroke, correct?

A. No. I think it was generally thought for good reason that the postpartum state or pregnancy in general was associated with strokes more than women at the same age and there is other evidence that that is true and this is just the best evidence because it's more recent and it's more complete than previous evidence put together.

Q. If the sponge or tape or pad had been removed -- strike that. If the surgical foreign body had been removed earlier than November 15, 1994, do you have an opinion whether that would have reduced the likelihood of Patty Doll suffering a

stroke?

A. Well, it couldn't be, as far as I'm aware, removed before November, 1994, because as far as we know it was left there at the time of the --

Q. November 15 of 1994.

A. Could you ask the question again?

Q. If the foreign body had been removed earlier than November 15, 1994, which presupposes that someone had recognized that it was there after the c-section was concluded but before it was discovered on November 15 of 1994, do you have an opinion as to whether the likelihood of Patty Doll suffering a stroke would have been lessened?

A. Probably not.

Q. Why?

A. Because I'm not -- I don't think there is good evidence that a foreign body causing inflammation in the lower abdomen is a cause of stroke.

Q. And you don't believe that the foreign body that caused inflammation had any effect on the

vascularity within the middle cerebral artery?

A. Could you restate the question? I'm sorry -- this vascularity, could you use another word?

Q. Sure. Is it your testimony that the inflammatory reaction of her body to this mass did not in any way affect the blood flow within her middle cerebral artery?

A. I believe it did not.

Q. And it didn't, in your opinion, contribute to the ischemia that caused the stroke in this case?

A. I don't think there is any evidence of that.

Q. Okay. Have we covered the opinions that you hold in this case, Doctor?

A. I think so. Repeatedly, yes.

MR. MISHKIND: All right. I have no further questions for you.

MR. MOSCARINO: Ron, do you have any questions?

MR. RISPO: Afraid not. I hope you weren't waiting with bated breath.

MR. MOSCARINO: No, I was actually happy to hear that. Okay. Thanks, Ron.

MR. RISPO: Thank you.

MR. MOSCARINO: Why don't you have the record reflect that we're not going to waive signature. We will read the deposition.

(The deposition concluded at 3:15 p.m.)

CERTIFICATE FOR READING AND SIGNING

I hereby certify that I have read and examined the within transcript and the same is a true and accurate record of the testimony given by me.

Any additions or corrections that I feel are necessary I have listed on the separate ERRATA SHEET enclosed, indicating the page and line number of each correction.

_____

THOMAS R. PRICE, M.D.

_____

DATE

STATE OF MARYLAND

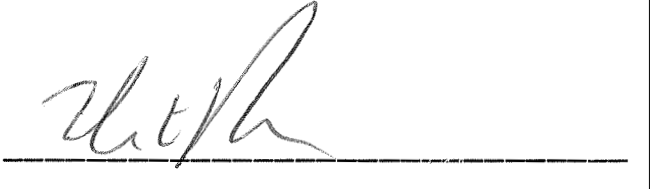
CITY OF BALTIMORE SS:

I, MARK E. BROWN, a Notary Public of the State of Maryland, do hereby certify that the within named Deponent personally appeared before me at the time and place herein set out, and after having been duly sworn by me, was interrogated by counsel.

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

I further certify that I am not of counsel to any of the parties, nor an employee of counsel, nor related to any of the parties, nor in any way interested in the outcome of this action.

As witness my hand and notarial seal this 19th day of May, 1999.



CURRICULUM VITAE

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PERSONAL

Home Address
7841 Ellenham Road
Baltimore, MD 21204

Date of Birth: July 31, 1934
Place of Birth: Hampton, Virginia
Marital Status: Married, Nancy
Two Children

EDUCATION

B.A. (Psychology)	University of Virginia, Charlottesville, Virginia	1956
M.D.	University of Virginia, School of Medicine Charlottesville, Virginia	1960
Graduate Summer Session in Epidemiology University of Minnesota		1968

LICENSURE

Maryland, 1967 Virginia, 1960

CERTIFICATION

American Board of Neurology and Psychiatry (Neurology 1970)

TRAINING

Intern, Cincinnati General Hospital Cincinnati, Ohio	1960-1961
Captain, United States Air Force, Medical Corps General Physician 317th TAC Hospital Evreux, France	1961-1963
Assistant Resident in Neurology University of Virginia Medical Center	1963-1964
Fellow in Neurology University of Virginia Medical Center	1964-1965
Fellow in Neuropathology University of Virginia Medical Center	1964-1965
Chief Resident in Neurology University of Virginia Medical Center	1965-1966

APPOINTMENTS

Research Professor of Epidemiology and Preventive Medicine	1998
Professor of Neurology University of Maryland School of Medicine	1978-1998
Professor of Epidemiology and Preventive Medicine University of Maryland School of Medicine	1990-1998
Associate Professor of Neurology University of Maryland School of Medicine	1972-1978
Assistant Professor of Neurology University of Maryland School of Medicine	1968-1972
Instructor in Neurology University of Maryland School of Medicine	1967-1968
Instructor in Neurology University of Virginia School of Medicine	1966-1967

PROFESSIONAL SOCIETY MEMBERSHIPS AND OFFICES

National Stroke Association, member of the Board of Directors, 1992-present
Chairman of the Research Fellowship Committee, 1992-present
Member Research Fellowship Committee, 1991-1992
Member, Editorial Board, Stroke and Cerebrovascular Disease, 1992-present

American Academy of Neurology (Fellow)
Bylaws Committee
Member 1977 to 1985;
Chairman 1978 to 1979; 1983 to 1985
Member Press Relations Committee, 1979 to 1985
Secretary Section on Neuroepidemiology, 1985 to 1987
Chairman Section on Neuroepidemiology, 1987 to 1989
Member Board of Directors of Vascular Neurology Section, 1994 to 1998

American Heart Association
Chairman of Stroke Subcommittee, 1986-1987
Stroke Council of the American Heart Association (Fellow)
Member, Editorial Board, Stroke, 1985 to present
Executive Committee member, 1980 to 1988
Committee on Student Clerkships
Chairman, 1982-1988
Member, Budget Committee, 1987
Maryland Chapter - Member of Stroke Sub-committee

Cerebral Cavernous Malformation Foundation
Board of Directors, Member 1990 to 1997
Treasurer, 1993 to present

American Neurological Association (Fellow)

American Medical Association

Maryland Neurological Society
President, 1979-1980

Baltimore City Medical Society

Medical and Chirurgical Society of Maryland

World Federation of Neurology
Member Research Committee on Neuroepidemiology

International Society of Cerebral Blood Flow and Metabolism

ACADEMIC ACTIVITIES

Visiting Professor:

Washington Hospital Center, March 1974
University of Virginia School of Medicine, March 1976
National Naval Medical Center, Bethesda, Maryland, December 22,1978
Education Consultant Site Visitor, University of Virginia, Department of Neurology, April 19-21, 1979
University of Cincinnati School of Medicine, April 16-17, 1981
University of Georgia School of Medicine, Augusta, Georgia, January 28-29, 1982
University of Virginia School of Medicine, Charlottesville, Virginia, June 7-9, 1984
Uniformed Services Health Sciences University, Bethesda, Maryland, July 13, 1987

Other:

American Heart Association Stroke Council, Representative to the National Conference on Standards and Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care, Dallas, TX, July 1987
Invited Speaker, American Heart Association's Fifteenth Science Writers Forum, New Orleans, LA, January 17-20, 1988
Sabbatical Leave at Rivermead Hospital, Green College, Oxford University, Oxford, England January - June, 1989
Chairman, Section on Hemorrhagic Stroke, Conference on Low Blood Cholesterol Levels: Disease Associations, NHLBI, October 9-10, 1990
Invited Speaker, International Symposium on Stroke Prevention, New York University Medical Center, March 14-15, 1991
American Heart Association, Invited Speaker, American Heart Association symposium on thrombolysis and stroke, New Orleans, LA, November 17-19, 1992
National Institute of Health, Invited Speaker, NIH Workshop on Mortality Trends in Stroke, Washington, D.C., November 30 - December 1, 1992
National Institute of Health, Invited Speaker, NIH Conference on Vascular Dementia, Washington, D.C., June 1993
National Institute of Health, Invited Speaker, NIH Workshop on Stroke Mortality in the Southeast U.S., August 30, 1994

APPOINTED COMMITTEE RESPONSIBILITIES

American Board of Psychiatry and Neurology, certified 1970; Assistant Examiner 1974 - 1998, - 20 Examination
Certificate 1998
Member of Psychiatry Question-Making Committee, 1986 - 1990

Member, Editorial Board Stroke: 1985-present

Member, Editorial Board Maryland Medical Journal

Member, Editorial Board Journal of Stroke and Cerebrovascular Diseases: 1992-present
Occasional reviewer:
Journal of Nervous and Mental Disease
American Journal of Clinical Hvpnosis
Archives of Neurology
Annals of Neuroloay
Journal of American Medical Association

Member, Safety/Monitoring Committee Tissue Plasminogen Activator Study NINCDS 1987-1990
Member, Stroke Nomenclature and Classification Committee NINCDS 1987-1989
Member, Monitoring Committee for North American Symptomatic Carotid Endarterectomy Trial 1988 - 1993
Neurology Consultant for Thrombolysis in Myocardial Infarction Trial (TIMI) NHLBI 1988
Neurology Consultant - Systolic Hypertension in the Elderly Program NHLBI
Chairman of the Cerebrovascular Event Committee 1984-1990
Member, Epidemiology Study Section B, NIH, 1988-1992
Member, Advisory Committee to Stroke and Trauma Section, NINDS-NIH, 1985-1989
Neurology Consultant - Cardiovascular Health Study, NHLBI
Chairman of the Cerebrovascular Events Committee 1989-present

Endpoint Committee - CONVINCE 1996 - present

Awards

Student Council Teaching Award, University of Maryland School of Medicine for "Inspirational Guidance and Interest in the Teaching and Practice of Medicine", June 1979. A second similar award from the Student Council, June 1981

.isted in "Best Doctors in the U.S.", by Stephen Naifeh and Gregory White

Listed in Town and Country Mauazine Feb, 1995 "The Best Medical Specialists in North America"

Listed in Baltimore Maaazine Summer, 1995 "The Best Doctors in Baltimore"
Listed in Good Housekeeping Maaazine, March, 1996 "The Best Heart Doctors in America"

UNIVERSITY SERVICES

Secretary-Treasurer Medical Board University of Maryland Hospital	1972-1973
Neurology Representative to Medical Board	1972-1979
Member, Bressler, Pangborn and Deans Fund Committee	1971-1980
Acting Chairman, Bressler, Pangborn and Deans Fund Committee	1979
Clinical Years Committee	1975-1976
Student Advisor	1973-present
Internship Advisory Committee	1969-1973
Ambulatory Services Committee	1971-1973
House Staff Committee	1970-1973
Member Neuroscience I Committee	1976, 1981, 1982
Year III Advancement Committee	1975-1976
Clinical Years Curriculum Committee	1985 to present
Accreditation Sub-committee on Clinical Departments	1977
Departmental Representative to the School of Medicine Council	1978-1981
Continuing Medical Education Advisory Committee	1980-1990
Member, Search Committee for Chairman, Dept. of Biochemistry	1982
Member, Search Committee for Chairman, Dept. of Psychiatry	1983-1985
Director of Stroke Research and Stroke Service	1978 - 1998
President, Neurology Associates	1979-1986
At Large Member, Univ. of Maryland Hospital Executive Committee	1987-1988
Member, Peer Review Committee	1985-1988

OTHER SERVICE

Maryland Heart Association Stroke Council	1975-1976; 1979-1983
Computerized Axial Tomography Task Force of the Central Maryland Health Systems Agency, Inc.	1976-1977
Medical Advisory Board, Motor Vehicle Administration State of Maryland	1975-1989
Advisory Group of Mandatory Reporting of Certain Medical Conditions to the Motor Vehicle Administration	1974
Medical and Chirurgical Society Committee on Hospital Based Physicians	1977-1980
Governor's Task Force on Alzheimer's Disease	1984-1986
Maryland Coordinating Council on Alzheimer's Disease and Related Disorders	1986-1988

PUBLICATIONS

1. Price TR and Netsky MG: Myxedema and ataxia: Cerebellar alterations and neural myxedema bodies. Neurology 1966;16:957.

2. Price TR: Neurological manifestations of heart disease. Maryland State Medical Journal 1968;17:103-104.

3. Heck AF and Price TR: Opacity pulse propagation measurements in humans: Atraumatic screening for carotid arterial occlusion. Stroke 1970;1:411-418.

4. Heck AF, Price TR: Opacity pulse propagation as a screening technique in carotid occlusion. Transactions of the American Neurolouical Association 1970;95:41-46.

5. Heck AF and Price TR: Atraumatic detection of occlusive vascular disease in carotid and subclavian arteries by opacity pulse propagation techniques. Angiology 1971;22:153-164.

6. Bauman ML and Price TR: Intracranial metastatic malignant melanoma (long-term survival following subtotal resection). South Med J 1972;65:344-346.

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