STATE OF OHIO

CUYAHOGA COUNTY COURT OF COMMON PLEAS

MATTHEW CHASE WAGONER, et al.	*	
vs.	*	No. 497179
MARK R. EVANS, M.D., et al.	*	

DEPOSITION of MARCUS C. HERMANSEN, M.D.,

Deposition taken at 22 Gregg Road, Nashua,

New Hampshire, on Tuesday, June 20, 2006,

commencing at 9:35 a.m.

Court Reporter:

Pamela Carle, CCR, RPR

New Hampshire CCR No. 98

APPEARANCES

For the Plaintiff:
BECKER & MISHKIND CO., L.P.A.
1660 W. 2nd Street, Suite 660
Cleveland, Ohio 44113
By: Michael F. Becker, Esq.

For the Defendants:
MOSCARINO & TREU, LLP
1422 Euclid Avenue, Suite 630
Cleveland, Ohio 44115
By: John T. Bulloch, Esq.
George Moscarino, Esq.

I N D E X

WITNESS: MARCUS C. HERMANSEN, M.D.

EXHIBITS FOR IDENTIFICATION:

MARCUS C. HERMANSEN, M.D.,
having been duly sworn,
was deposed and testified
as follows:
EXAMINATION

BY MR. BULLOCH:

Q. Doctor Hermansen, for the record, my name is John Bullock. I represent Fairview Hospital.

I know you've been deposed numerous times in the past, but just as a reminder, the court reporter cannot take down nods of the head, so please verbalize your responses.

If you need a break at any time, we'll be happy to break. Also, if you don't understand one of my questions, just ask me to rephrase it, and I'll be happy to try it again, okay?

A. Yes, sir.

Q. You were kind enough to share with me your records which you have in this case which are fairly substantial, but I just wanted to go over and make sure that we have everything in front of us.

There are several depositions you looked at, including depositions of Doctor Saxena, Doctor Alexander, Doctor Evangelista, and Doctor Bachman, correct?

A. Correct.

Q. Any other depositions besides -- oh, wait a minute. You also reviewed the discovery deposition of Doctor Adler and Doctor Lilien, correct?

A. Yes.

Q. And would you like to look --

A. There may be more.

Q. There are.

A. There are some on the original.

Q. There are some more. And then you reviewed the depositions of Margo Wagoner, Debra Hopp, who was a nurse, I believe, at Parma Community Hospital, and Doctor Mark Evan, who used to be a defendant in this case, correct?

A. Correct.

Q. Is that the sum of the depositions that you reviewed, sir?

A. Yes.

Q. And I notice you had several x-ray films, including some from Fairview, as well as some from Parma Community Hospital, correct?

A. Correct.

Q. Any others that you've looked at?

A. No.

Q. Any subsequent head films or anything like that?

A. No.

Q. Now, I understand -- if you could pass over your binder -- that you have some subsequent medical records. I assume -- can I have the entire binder, sir?

I assume that if -- if you have the records from North Carolina, if you reviewed anything from any head imaging films it would have been reports, correct?

A. Correct.

Q. And you did not see any of the films from any of the facilities in North Carolina, correct?

A. Correct.

Q. The records you reviewed are Parma

Hospital, Fairview Hospital?

A. Yes.

Q. Parma Hospital and Fairview Hospital, correct?

A. Yes.

Q. Some records from Doctor Evans' office?

A. The very last tab.

Q. And the only thing that I see from North Carolina is pretty limited, is that correct?

A. Yes.

Q. One includes an admission to New Hanover Regional Medical Center on 8 -- and August 2nd, 2000, correct?

A. Yes.

Q. It looks like some very limited notes from an admission to University of North Carolina as well, correct?

A. Yes.

Q. I'm not going to bother counting these, but it appears to be about 20 pages?

A. Yes.

Q. I'll give those back to you, too, sir. Counsel for plaintiff also provided you with some

expert reports, correct?

A. Yes.

Q. One was from a Doctor Nelson, who is a defense pediatric neuroradiologist, correct?

A. Yes.

Q. You received, and I assume reviewed, the expert report of Doctor Robert Darnall?

A. Yes.

Q. I noted you made a couple of notes on Doctor Darnall's report?

A. Yes.

Q. Doctor Darnall's section entitled interpretation and comments he has a sentence, the course of the symptoms was most consistent with mild to moderate hyaline membrane disease, do you recall that?

A. Yes.

Q. And you drew what looks to be an unhappy face next to it?

A. Yes.

Q. And you have circled mild, correct?

A. Yes.

Q. And then Doctor Darnall has a sentence,

the pneumothorases were properly treated and the infant gradually improved, consistent with a typical course of HMD. And you have circled typical course of HMD, correct?

A. Yes.

Q. And next to that you wrote not in the 1990s, correct?

A. Correct.

Q. Do you remember why you wrote not in the 1990s, what it is that you disagree with Doctor Darnall about?

A. Since the introduction of surfactant therapy, that's no longer the typical course. This is the typical course of what we used to see when Doctor Darnall and I both began our careers, but it's not the typical course today, nor was it the typical course at the time Matthew Wagoner was born.

Q. So I assume then that you're disagreeing with Doctor Darnall that Matthew followed a typical course?

A. Yes.

Q. Correct?

A. Yes.

Q. And then Doctor Darnall has a sentence that reads, at no time during the course of this infant's hospitalization was there any evidence of severe respiratory compromise associated with prolonged or severe lack of oxygen, and he has, parens, hypoxia, and you have underlined prolonged or severe lack of oxygen, hypoxia, and a big question mark next to it, correct?

A. Yes.

Q. What are you questioning about Doctor Darnall's opinion?

A. I'm questioning what his definition of severe hypoxia is. This baby had low oxygen saturations and low blood gas oxygen levels down into the 30s for --

Q. Was it prolonged, or was it short bursts of that?

A. He was sick pretty much for around five or seven hours. He began getting sick at five o'clock in the afternoon, I believe, and we have a blood gas at midnight that looks bad, and he was pretty sick through that entire period.

Q. Doctor, why don't you take the time to look at the blood gasses right now and tell me where you see a prolonged period of hypoxia.

A. I'm basing this on more than blood gasses. It's also nursing observations at the bedside.

Q. Okay. So tell me where you're seeing prolonged periods of hypoxia?

A. This episode begins at 5:40 in the afternoon. Now, my pages have little numbers circled on them, if that helps.

MR. BECKER: They wouldn't have that.

THE WITNESS: Okay.

A. At 5:40 in the afternoon.

Q. Of what day, sir?

A. On the 25th, the second day of life.

Q. Okay.

A. The baby has persistent oxygen saturations from 60 into the 70s. It's persistent even after they tried to bag resuscitate the baby, there's no improvement. So this is beginning at 5:40.

And I'm going to say that the child is

sick up until midnight when we have a blood gas. That's six hours later, we have a blood gas with a PO 2 value of 32. Well, to me those numbers seem prolonged and severe. Evidently to Doctor Darnall, it's not prolonged and severe.

Q. So the period that you have at issue goes from 5:40 until midnight of August 25th, is that what I'm understanding you're saying?

A. Yes.

Q. Okay, we'll revisit that. Doctor, you also have a couple of articles here in your file?

A. One article and two abstracts.

Q. Okay, and we'll talk about those later, too. You also have a Survanta package insert from May of 2004, correct?

A. Correct.

Q. And obviously this would not have been a package insert that was in existence at the time of Matthew Wagoner's hospitalization, correct?

A. I don't know.

Q. Well, certainly this one isn't, because it's dated May of 2004, correct? It might have been the same, but certainly not the one that you

have in your file.

A. True.

MR. BULLOCH: Okay, I'd like to mark this as Exhibit 1, plaintiff's Exhibit 1, please.

(Hermansen Exhibit No. 1 was marked for identification.)
(Hermansen Exhibit No. 2 was marked for identification.)
(Hermansen Exhibit No. 3 was marked for identification.)

Q. Doctor, I've marked as exhibits three documents. First is -- and I'll hand it to you and ask you to return it to me -- but first is a letter from Mr. Becker's office that is a prenatal timeline that was prepared by a Judith Gonet, G-O-N-E-T. I assume you received and reviewed that?

A. I received it. I don't remember having looked at it.

Q. Okay.

MR. BULLOCH: Mark this as Exhibit 4, please.

(Hermansen Exhibit No. 4 was marked for

Q. Exhibit 2 is a handwritten sheet?

A. Yes.

Q. That's your notes, or what are these from?

A. I produced that.

Q. Okay, was this at Mr. Becker's request, or was this just something that you had put together?

A. It's something I did after reading Doctor Alder's deposition.

Q. Okay, did you --

A. He was asked a lot about the various causes of cerebral palsy, and I have a publication coming out any day now where I published this table as my thoughts with causes of cerebral palsy.

Q. And that would be the one that you're the guest editor of in the Clinics in Perinatology?

A. Yes, I wrote one chapter in the book, but I also wrote the preface. And in the preface I give a table for the causes for cerebral palsy, and that comes from the table.

Q. We'll get to that, I have a copy of it. Exhibit 3 is your CV?

A. Yes.

Q. Current CV? And Exhibit 4 is your report, correct? You can have that, I've got it.

A. Yes.

Q. Doctor, I'm going to hand you back your CV as well so you can refer to that. I had a version of your CV that was dated October 2004, and you were kind enough to give me your current CV this morning, so we don't have a copy of it, but I'll do my best.

Have there been any additions since this current CV that we've marked as an exhibit?

A. No.

Q. You're certified by the American Board of Pediatrics, correct?

A. Yes.

Q. And you have a sub-board in neonatal-perinatal medicine, correct?

A. Yes.

Q. And I assume that you do not need recertification?

A. Correct.

Q. The academic affiliation that you state is associate professor of pediatrics, correct?

A. I have two appointments. One in the department of pediatrics, one in the department of OB/GYN.

Q. Okay, and those are both with Dartmouth Medical School, correct?

A. Correct.

Q. Now, is that in Nashua that you hold those appointments, or are those back up in Hanover?

A. The school is in Hanover and Lebanon, but most of my teaching takes place in Nashua.

Q. Okay. And as such, is that more of a clinical professorship?

A. No, it's a full professorship. There are clinical appointments, but this is a full faculty appointment.

Q. You lecture residents?

A. Yes.

Q. What topics do you typically lecture residents on?

A. I have two types of lectures, one is I give a series of lectures to the OB/GYN residents. During their year with us they get one lecture a month, so they get 12 a year, of which I give about eight of the 12, and my partners give the other four.

I expect each of my partners to give one a year, and I take about eight. These are newborn topics that are appropriate for OB residents. For example, one lecture is on newborn resuscitation. One is on common birth defects.

Q. Okay.

A. We both have to know and they can learn from our expertise.

Q. Are those lectures or presentations listed in your current CV?

A. No.

Q. Okay.

A. And then secondly, I give lectures at Lebanon and throughout New England on behalf of Dartmouth. But those are one here, one there. They invite me to give a lecture at some conference or some meeting, and I do it.

Q. Okay, are those at other satellite facilities of Dartmouth-Hitchcock, or is that --

A. Sometimes, and sometimes they're at the main hospital.

Q. Now, the lectures that you give are predominantly to OB/GYN residents?

A. The ones I give here in Nashua, yes, that's true.

Q. Do you have any residents in neonatology at Nashua?

A. No.

Q. So you don't give any lectures here obviously in neonatology?

A. I give about one a year to the pediatric department and the medical staff.

Q. Do you provide neonatology lectures anywhere else in the Dartmouth system?

A. Well, throughout New England. I gave a lecture in Vermont. It was a Dartmouth-sponsored conference, but it was in Vermont.

Q. What kind of topic is that that you typically give presentations in neonatology?

A. That was on resuscitation issues. How

do you train hospital providers to become skilled in resuscitation.

Q. I notice in your resume that it seems like you have somewhat of a subspecialty interest in risk management, is that fair?

A. I've done extensive medicolegal reviews and testifying, and based upon that experience, I put together a book on that topic.

Q. Do you consider yourself to have any other subspecialty in neonatology?

A. I'm interested in what we'd call epidemiology, looking at some of the numbers and relationships of cause and effect situations, what causes prematurity, what causes CP, that type of thing.

Q. Similar to your upcoming publication in Clinics in Perinatology?

A. Somewhat.

Q. That type of research? Okay. Doctor, what percentage of time do you spend in the clinical practice of medicine?

A. I'm at the hospital as a clinician and to a lesser extent administrator of our program 40

to 45 hours a week.

Q. Okay.

A. I am scheduled to work three 12-hour shifts a week where I'm the clinician in the hospital.

We break every day into two 12-hour shifts. I worked this past Sunday for 12 hours. I work tomorrow night for 12 hours, and then I have another 12 hours at the end of the week.

So 36 hours a week I'm the clinician in the hospital, and I'm there for one reason or another another five hours.

Q. Okay, and what percentage of your time do you spend in teaching responsibilities? Is that just limited to the lectures that you do, eight a year, and then assorted ones throughout the state?

A. That's the formal teaching. I teach at the bedside almost every day, but I don't think that's what you're asking about.

Q. Well, and if you're at the bedside, I assume you count that as part of your clinical practice, too, correct?

A. Commonly clinical, administrative and teaching overlap a lot. You're commonly doing two of those tasks at the same time.

Q. Sure.

A. So, yes, that's true. I'm teaching during my clinical time.

Q. Doctor, you listed in your CV on page 3, at least the version that I have, your professional societies that you're a member of, which included American Academy of Pediatrics, section on perinatal pediatrics, Northeast Association, Neonatologists, and New Hampshire Pediatric Society.

Do you hold any type of administrative or office in any of those societies?

A. No.

Q. Under institutional committees and appointments, you have several. It's Southern New Hampshire Medical Center. And I believe Southern New Hampshire Medical Center is a facility in Nashua, correct?

A. Correct.

Q. Are you still currently director of

neonatology?

A. Yes.

Q. What do your responsibilities as director of neonatology entail?

A. I make sure things work right. I put the team together. I schedule the team, I look at the quality of care, I make sure that my team of providers is working well with nurses and nursing issues.

I'm the interface between the doctors and the nurses. I serve on various hospital committees on behalf of the neonatal program.

Q. How many doctors are in your group?

A. Four doctors, one nurse practitioner.

Q. And they're all neonatologists?

A. Actually -- yes, it's four and one. No.

Q. They are not. What are the other others --

A. The others are pediatric hospitalists.

Q. So you're the only neonatologist?

A. No, there are two neonatologists, and two and a half pediatric hospitalists, but we all

do the same job.

Q. I assume that the neonatologists cover the NICU at Nashua, correct?

A. We all do. Everyone in the group does.

Q. Including the pediatric intensivists?

A. Yes. We have pediatric hospitalists who are doing some neonatology, and we have neonatologists like myself doing some hospital pediatrics.

Q. Because of that, I assume you're a level 2 nursery here in Nashua?

A. Yes.

Q. How does the state of New Hampshire license NICUs?

A. This is the Live Free or Die state, and so they don't. They have no regulations, and you can call yourself whatever you want.

Q. Okay.

A. And we've talked about it internally, the nurse manager and I, about if we should call ourselves a level 3, when should we, is there any reason to. It's totally arbitrary, and it's self-designated in this state.

Q. There's no licensing by any entity, Department of Health or any other entities similar to that in the state?

A. Well, they licensed our beds. We're licensed for a 17 bed neonatal unit, but they don't classify the unit, we do.

Q. Is there any outside entities that have input into the classification of your NICU, like insurance companies or Joint Commission of Accreditation of Healthcare Organizations?

A. About a year ago the American Academy of Pediatrics came out with a new classification system. And in that system there's level 1, 2, 3A, 3B, 3C and 3D, and we're a 3A according to the American Academy of Pediatrics.

The hospital in Manchester can do more than we can, they're a 3B. Dartmouth can do more than that, they're a 3C, and Boston Children's Hospital is at the top, they're at 3D. So the American Academy does have a system that would put us as a 3A.

Q. What's the difference between, as far as you understand it in this AAP accreditation

process or -- probably a wrong -- characterization process is probably a better term, correct, because it's not an accreditation process?

A. You're right.

Q. But as characterization of levels, what would be the difference between your facility and the facility up in Lebanon?

A. They can take care of premature babies as small as you can get. We put a limit. We don't go below 27 weeks, or 1,000 grams birthweight.

Q. Okay.

A. They go down to 500 grams and 23 weeks. So they take care of more smaller premies, and, secondly, they have more subspecialty. They can do pediatric surgery; we can't. They've got pediatric cardiologists; we don't. They have a lot of pediatric subspecialists that we don't have.

Q. How many beds is your NICU here?

A. Today it's 17. We just got a CON approved, because we're going to rebuild it. And although it's going to be bigger floor-space wise, we're cutting to 14 in the future.

Q. So you'll be a 14 bed or Isolette unit?

A. Yes.

Q. I assume from what you said, then the state of New Hampshire does have certificate of needs process?

A. Yes.

Q. Which you have to apply for and get approval. You can't just willy-nilly build beds in New Hampshire?

A. We were approved two or three months ago for a new construction.

Q. Okay. Assume you know Doctor Robert Darnall, correct?

A. I know him well.

Q. Does he have any subspecialty in neonatology that you're aware of?

A. Yes.

Q. Do you know what his subspecialty is?

A. I know his primary research interest, and probably clinical interest as well, relates to regulation of breathing and apnea.

Q. So if you were going to characterize his practice, if there is such a thing, it's a pulmonary neonatologist, would that be fair?

A. I don't know how much he does with pulmonary physiology, it's more breathing control and apnea. He's working a lot in the lab now. He's, I think, cut back to half time clinical and half time research, and I think it relates to breathing control, not pulmonary mechanics, and I may be wrong on that.

Q. Okay. I assume you recognize him as an expert?

A. Yes, I have much respect for Doctor Darnall.

Q. Have you ever referred patients to him or to his institution?

A. Yes.

Q. Do you refer patients to him that -- babies that need surfactant and long-term ventilation support?

A. If they're under a thousand grams or less than 27 weeks, I would call Dartmouth. As I say, they've got, I believe, five attendings there. So you might say, well, there's one chance in five he'd answer the phone, but I think he's only working half time clinical, so there's about one

chance in ten that he would be the accepting doctor.

Q. Okay, so if you have a particularly difficult case, you would tend to call up to Lebanon, is that fair?

A. That happens on occasion. Five to ten times a year.

Q. Sure. You would defer to the doctors, then, in Lebanon and Doctor Darnall on issues that -- difficult issues that relate to pulmonary conditions of the neonate?

A. I'm not sure I understand what you're getting at.

Q. Let me try to rephrase it. If you, again, had a particularly difficult case and you called up to Lebanon and talked to Doctor Darnall or one of his partners up there, and they suggested that you do a certain course of treatment or that you send the baby up to Lebanon, I assume that you would defer to their judgment on those issues?

A. Any case I can keep here, I don't need their advice. Once I turn the case over to them,

it's their case; they can do what they want.

Q. Okay.

A. I send a lot of these cases to Dartmouth not because I don't have the skills and expertise, but some of it's because I'm using pediatric hospitalists and nurses that haven't taken care of those small babies, and I'm doing it to -- for that reason. But I don't think that their neonatologist have more or less expertise than I do.

Q. All right. Yet, you will send patients up to Lebanon that are particularly difficult, correct?

A. These are cases that are going to be difficult for my team and my nurses, not necessarily me.

Q. All right.

A. And it's not in their best interest to be here for that reason.

Q. But you also told me that you would contact the doctors up at Hanover or talk to Doctor Darnall for some advice on some occasions, correct?

A. Not necessarily to get advice, but to accept the patient in transfer.

Q. Doctor, back to your institutional committees and appointments. As a director of neonatology at Southern New Hampshire Medical Center, what percentage of your professional time is spent in that capacity?

A. In the administrative role, five hours a week. Sometimes more or sometimes less. If we're recruiting, I'm going through an active recruiting process, I might put in ten or 15 hours doing those weeks.

Q. How often do you recruit doctors?

A. Whenever someone leaves the group. I have someone leaving at the end of this month, and I have a new person starting at the end of July. I end up recruiting one new person every couple of years. I have been here nine years and probably have done four or five recruitments.

Q. How long -- how many weeks span does it take you to recruit a doctor, typically?

A. The biggest holdup in the process is getting the state license. We tell these people

after we reach an agreement for a contract they aren't going to start working for about four more months.

So our recruitment may take anywhere from one to six months, and then it's three or four waiting for license after that. So it's between six to 12 months.

MR. BULLOCH: Off the record.

(Discussion off the record.)

Q. Doctor, I also show that you are the chairman of the neonatal intensive care unit committee?

A. Yes.

Q. What does that entail?

A. It's a meeting every month or two with our providers and the nurse managers just talking about issues that are going on, clinical issues.

Q. Okay, and that's -- by providers you mean the doctors and the nurses?

A. Yes.

Q. And as the chairman, do you spend some time getting this organized and spending some time doing those type of things?

A. A little time, not much.

Q. How much -- how many hours a week would you estimate you spend in that role?

A. One or two hours a month. If a meeting lasts an hour, I probably put in another hour before the meeting and after the meeting.

Q. Okay. You're also on the Maternal Child Health Council?

A. Yes.

Q. What is the Maternal Child Health Council, Doctor?

A. That's a monthly meeting, the last Tuesday of the month. It has pediatricians, obstetricians, one anesthesiologist, one family practitioner, nurses from pediatrics, labor and delivery, the neonatal unit and a couple of administrators.

It's a group of about 15 people that get together. It's an opportunity for -- for example, the pediatricians to bring up an issue with the obstetricians, and then they take it back to their department, or the obstetricians at the last meeting were upset with the anesthesiologists

and came to that forum.

Q. Who covers resuscitation in your hospital when resuscitation's necessary?

A. My group, one of the five of us. We're there 24 hours a day, and we go into about half the deliveries now.

Q. And does the anesthesiologist have any role in neonatal resuscitation?

A. No.

Q. Now, the Maternal Child Health Council, what would you estimate you spend per week doing that?

A. Just going to the meetings, and that's one and a half hours once a month, and maybe I have one follow-up issue to work on after the meeting, maybe a memo to send out, couple of phone calls to make, not much.

Q. And does that happen on a monthly basis since you're the head of the neonatology group?

A. Yes, I probably put in two hours a month on activities related to that --

Q. In addition to the hour and a half?

A. No, that counts the hour and a half.

Q. The next thing I'm showing is principal investigator for the Boston University birth defect study at Southern New Hampshire Medical Center.

A. That's still going on, but it doesn't take much time.

Q. What are you investigating? Obviously birth defects, but can you give me some specifics on what that's all about?

A. They look at cases that are born with birth defects at our hospital, and five other normal babies born that same week, and they interview the family of the birth defect baby and the five control families, and they're looking for causes of birth defects. We're one of about 30 or 40 hospitals in this study.

Q. I see. So you're looking to see if the mother was exposed to some noxious chemical, for example?

A. Yes.

Q. Now, how often --

A. Now, I know one of their emphases is looking at asthma medicines, and -- because so many

pregnant women have asthma and take a lot of medicine, they're trying to see if those medicines cause birth defects. That's one specific focus that's going on now.

Q. Does the study of children with birth defects include children that are diagnosed with cerebral palsy?

A. No.

Q. Even though that cerebral palsy could be caused by some prenatal event?

A. We're looking at babies diagnosed as having a birth defect in the newborn period, and cerebral palsy isn't diagnosed in the newborn period.

Q. Okay, fair enough. As a principal investigator with that group, how much time do you spend in that?

A. Maybe that's misleading. I'm only principal investigator at our hospital.

Q. I understand.

A. I'm the liaison for our hospital. In a year's time, the entire year, two or three hours. I have to go to annual meeting of the institutional

review board and present the activities of the project. That's about it.

Q. Okay. Continuing medical education committee, I think I know what that is, I won't have you explain that to me, but how much time do you spend on that a month or a week?

A. Two hours a year. We have one meeting a year.

Q. Okay.

A. And we plan the program for the next year.

Q. Ethics committee, how much time do you spend on the ethics committee?

A. I go to one meeting a month.

Q. So, hour or two a month?

A. Yes.

Q. Credentials committee?

A. That's a good committee. That's two hours a month. It's a very good committee.

Q. Are there any other institutional committees that you're involved in that I'm not showing on my somewhat outdated CV?

A. No. This one says I'm on the

breastfeeding practice committee.

Q. Okay.

A. They meet once a month, but I commonly do not attend. If I'm working that day, I attend. If I'm not working, I send someone else for me.

Q. Anything else?

A. No.

Q. Okay, noninstitutional committees. You have the neonatal resuscitation program provider. Can you explain to me what that is?

A. That just means that I hold a card that says I'm approved, I've taken the program. The neonatal resuscitation program, I've taken it and passed.

Q. You have no administrative responsibility in that organization that certifies doctors as being neonatal resuscitators?

A. Not at this time. I used to, but I stopped in 1996.

Q. Okay. And then I've got PALS providers, is that the same type of thing?

A. Yes.

Q. And you hold no administrative capacity

with Pediatric Advanced Life Support program?

A. Correct. On the bottom.

Q. Oh, yeah, you have a few more. There's the New Hampshire state birth defects surveillance system advisory committee that I list as well. Are you still involved in that?

A. No, I don't think that group is active right now.

Q. Okay, and then you were kind enough to hand me portions of your current CV, and what is NICU NET moderator?

A. It's an Internet forum for NICU conversations and discussions from all over the world, and there are five people who serve as moderators, so that we take two week blocks. So every two weeks I approve, disapprove, or edit postings before they get posted.

Q. Okay. Now, you do that -- there's five of you, so you do that ten times a year, correct? Would that -- my math is terrible. You do it ten weeks out of the year?

A. Correct.

Q. How much time does that take you when

you're actively serving as the moderator?

A. Ten or 15 minutes a day. Once a day I sit down and look at the postings and deal with them.

Q. Okay, the Nashua Police Department consultant. What capacity is that, sir?

A. We're looking at drug use in pregnancy and its effect on the babies. And there have been two women so far prosecuted in the last year for cocaine use and its effect on the baby.

Q. So you're actively involved in the criminal justice system with this, or are you offering testimony?

A. No, I'm working with the -- both the police and the prosecutor's office in developing their strategy and their approach to this.

For example, one of the first meetings I had a lot of input in deciding what drugs we would focus on. What drugs we could say are harmful to a baby, and what ones we couldn't say that.

Q. Okay, the two cases that were prosecuted was where the mother was abusing some

harmful substance?

A. They were both cocaine. I feel strongly about cocaine.

Q. When the prosecutor brought charges against those two mothers, were you called to testify at trial about the harmful effects of cocaine on the developing fetus?

A. On one of them they reached a settlement, a plea bargain, just before it went to trial, but I would have testified as an expert for the state.

Q. Okay, and the other one?

A. One of my partners happened to be the treating physician and testified.

Q. Okay. And this has been going on since -- roughly two years or year and a half?

A. Yes.

Q. Last year did you testify at all in any criminal matter?

A. No.

Q. How much time are you spending in that role per month?

A. Most months, none. It's as needed.

Q. The two cases that you dealt with this past year, how much time total did you spend on it in that capacity?

A. Five hours.

Q. And you're also the physician volunteer for New Hampshire medical malpractice screening panels, correct?

A. Yes. That's a new program in the state, and I haven't had a panel to sit on yet, but I'm -- if you called the board, they'd tell you I'm available. If one comes up in my field, they may call on me.

Q. Were you involved in setting this program up through the legislature or anything?

A. Not at all.

Q. So New Hampshire now has an arbitration -- well, let's back up. It probably has -- before you can file a claim in New Hampshire it has to be approved as malpractice by this panel, is that it?

A. No, it's after it's filed the case goes to a panel of three people. I know one's a lawyer, one's a doctor, and I'm not sure about the third

one.

And if the panel reaches a unanimous decision, then that can be presented to the jury. If it's not unanimous among the panel, nothing happens.

Q. So you have no ability to find for the plaintiff or the defendant, but if it's unanimous, it goes to -- the defense or the plaintiff can bring that up to the jury's attention, correct?

A. That it went to this panel, and that's what the panel found, yes.

Q. And how much time do you spend -- oh, you told me, you haven't spent any time yet, correct?

A. Right.

Q. I've got manuscript reviewer for numerous publications. Are you still involved in any of those?

A. I probably did more last year than any other year in my career.

Q. Are you reviewing for -- I've got two, four, six, eight -- nine journals, or are there additional ones?

A. I have 11 now.

Q. Okay, what are the two new ones?

A. I don't know.

Q. Oh, alphabetical. And I assume you review articles as requested?

A. Yes.

Q. You don't review every article that goes into these publications?

A. Oh, no.

Q. How much time a month are you spending in this role?

A. It would average about one hour a month.

Q. For all of these journals or each journal?

A. Total. That is I probably get one article to look at every other month, and I probably put in about two hours on it.

Q. And you've got some very interesting additional clinical experience. Can you give me some idea how you became a neonatologist and a veterinarian at the same time?

A. I worked with gorillas at the

Cincinnati Zoo. I was in Cincinnati, and we consulted with them when they had babies. That was my first experience. We brought them in, they were small, and the mother wasn't taking care of them, and we put them in incubators, and fed them, and I got to do that.

In Kentucky we worked closely with the thoroughbred industry. Their vets would round in our neonatal unit, and we would round on their farms.

I took care of Bongo antelopes at the Pittsburgh Zoo. There was an infant born that got very sick, went into liver failure. They had called on me because I had helped them earlier with the delivery and resuscitation of giraffes.

I read where a mother had a giraffe at the zoo that died during birth -- the calf died. And I called them up and said next time you have one of these births, give me a call, I'll come and see if I can help, and they did.

So I resuscitated a giraffe, and then after that they called me for the bongo. The alpacas we have here on our farm.

Q. Doctor, you have also provided us a list of various articles that you have published over the years. What I'd like to ask you is which ones do you feel are directly related to the issues in this case?

A. I don't know if any of them are. None of them come to mind.

Q. Are there any articles specifically related to hyaline membrane disease?

A. No, I don't think so.

Q. What about articles related to using ventilators in newborns?

A. No.

Q. And I did not see any articles related to use of surfactants, is that fair?

A. That's fair.

Q. Okay. Article No. 15, and yours might be different, Doctor. I'll just give you the title of it, it was Hermansen and Hasan, An Evaluation of a Computer Program to Predict the Outcome of Hyaline Membrane Disease, published in the American Journal of Perinatology. I assume you recall that article?

A. That was an interesting one, yes. People at Vanderbilt wrote a computer program, and it looked at blood gasses for the first six or 12 hours, I don't remember, and it would predict whether the outcome was -- the outcome was mild, moderate or severe, and they published that.

Well, I took babies and took the blood gasses from the same time period, six hours, and I showed them to my two colleagues, two neonatologists, and asked them to predict the outcome, and they beat the computer.

So even though the Vanderbilt people published that their computer was good, I showed that the neonatologist was still better.

Q. So the neonatologist was better at predicting whether or not a child would develop hyaline membrane disease than this computer program?

A. No, the outcome of hyaline membrane disease.

Q. Okay.

A. I think it was things like time on the ventilator, time on oxygen.

Q. Severity of the hyaline membrane disease?

A. Yes. They had to classify it as mild, moderate or severe, and the computer class made a prediction, and the neonatologist made a prediction, and the neonatologists were better.

Q. Part of what I noticed in there was your reasoning that you felt the neonatologists did better was that the computer didn't really consider birthweights. It had to be inputted, but it didn't consider birthweights in making a projection on what happened.

A. I don't remember that.

Q. I'll give you --

A. I haven't looked at that article for a long time.

Q. If I can find it here. Doctor, I apologize, but the study I'm going to give you has my highlighting on it. But if you want to take a look at the abstract or any portion of the article you want to review, feel free to take time to do that. Very interesting article.

A. I haven't looked at it in a long time,

but I was right. It says, although the computer program predicted the outcomes with moderate success, it was less accurate than the neonatologists.

Q. Read on. It's an interesting study.

A. Where do you want me to start reading? That was the last sentence of the abstract.

Q. The question, and I think I highlighted it there, was that the reason that you found that the neonatologists did better was that the computer did not consider birthweights.

A. I don't remember that. If that's what it says, that's what it says.

Q. Let me point it out to you.

A. Fine.

Q. Let me read what you've got here under discussion. Surprisingly, we found that the neonatologists predicted the outcome of uncomplicated HMD, hyaline membrane disease, more accurately than the model.

Additionally, physicians with the greatest experience may be the best predictors. The physician with the greatest clinical

experience, 12 years, was the best predictor at 24 correct, followed by the physician with 11 years of experience, 22 correct, and then the physician with two years of experience, 18 correct.

A. That was probably me.

Q. So certainly experience in this field pays off, correct?

A. Right.

Q. Okay, go on here. Here. It is noteworthy that the three groups of patients selected by the physicians were of significantly different birthweight and gestational age. It is likely that the physicians used birthweight to help differentiate among the three outcomes. Okay?

And then in the abstract you've got, while actual severity was linked to birthweight, the model did not utilize birthweight in its predicted algorithm.

And I'll be happy to share that with you again if you want to review it. But the question is, do you believe that -- or at least the time that you wrote that -- that the reason

that the physicians did better was, one, based on experience, and, two, based on the fact that they took birthweight into consideration?

A. It appears so.

Q. So I guess the question that I have for you, then, Doctor, is why? What is the relation between birthweight and severity of hyaline membrane disease?

A. Statistically as a group, the smaller you are, the worse the outcome.

Q. Okay.

A. But that isn't true for every baby, or that would be the only factor to consider.

Q. Certainly.

A. There are some very tiny babies that have good outcomes and some very big babies that have bad outcomes, but it's one factor that is worth considering.

If you're going to predict outcomes, I'd predict a thousand gram baby would have a worse outcome than 2,000 gram babies, and I'll be right a reasonable amount of the time, but not always.

Q. Sure. So just to summarize then,

birthweight is important in predicting outcome?

A. Yes.

Q. Correct?

A. Yes.

Q. The bigger the baby, the more likely a better outcome, correct?

A. Sure.

Q. Article 18 is an article captioned Diminished Splenic Function in Asphyxiated Term Infants. Do you recall that study?

A. Yes.

Q. I believe the study demonstrated that hypoxic events cause changes in the function of the spleen, correct?

A. Yes.

Q. And was the change that you found related to decreased blood cell counts?

A. No. There are specific types of cells, the red blood cells, and when they get old or damaged, they get pits in them, and they were called pitted or pocked cells.

Q. Okay.

A. And the spleen should take those out of

circulation. And if you look with a special stain, the pathologists can look and count pitted cells, and if you have too many of them, if the number is high, that means the spleen is not doing its job. And we looked at babies with low Apgar scores and showed they had higher pit counts.

Q. Do you currently use pit counts in your practice?

A. No. Virtually no one does.

Q. Is this related, in your mind, to the hypoxic events on the bone marrow as well, where you see thrombocytopenia?

A. No. This is the spleen not removing cells that it should remove.

Q. And the reason that it's not removing cells the way it should, because it took a hit, if you would, hypoxic hit, correct?

A. Yes.

Q. So in that regard it is related to what you expect to see other effects on the body with hypoxic hits, correct?

A. With asphyxia, yeah, I -- this is an asphyxial event.

Q. So much like the spleen, you expect to see some effect on kidney function, for example?

A. With asphyxia, you commonly see kidney dysfunction.

Q. Liver dysfunction?

A. Very common.

Q. Bone marrow dysfunction?

A. Very common.

Q. You tend to see damage or injury of some sort to the intestinal tract?

A. Not as common, but you can.

Q. Compression of bone marrow resulting in thrombocytopenia?

A. Well, they get thrombocytopenia, but I'm not sure if that's always the cause of it. It may be that the platelets are being consumed or destroyed in the circulation.

Q. Okay.

A. You get low platelets either from lack of production or increased destruction, and it may be as much of a destruction problem.

Q. So, for example, if you have a bleed in the head as a result of a hypoxic ischemic event,

you might be losing platelets in that regard?

A. I'm thinking if you go into a process what we call DIC, where they begin using up their clotting studies, they drop their platelets.

Q. Now, you mention this occurring in an asphyxial state, correct?

A. Yes.

Q. Is asphyxial state the same in your mind as a hypoxic ischemic event?

A. Sometimes.

Q. What about a prolonged hypoxic ischemic event?

A. Sometimes it could give you your classical asphyxia picture, sometimes it won't.

Q. When does it, and when doesn't it?

A. Asphyxia is interference with respiration resulting in hypoxia and acidosis. Now, you can have hypoxia and ischemia taking place without it -- without the asphyxia process, without it -- the primary process being interference with respiration, without it being a placenta problem, without it being an airway issue, that's asphyxia.

Asphyxia gives you a systemic response.

The body goes into certain compensatory mechanisms, and then the body fails, the heart fails, the organs all suffer. That's an asphyxia picture.

But a baby could be hypoxic and have poor blood flow and not go into the asphyxia picture. Just get, you know, a hypoxic insult, but not build up the acid, not go into multi-organ failure, not begin having seizures, not -- it's more of a hypoxic problem than an asphyxial problem.

Q. All right, you mentioned the acidemia, correct?

A. Yes.

Q. And actually, the acidemia, you've written, is protective at times, correct?

A. Yes.

Q. So the absence -- you have found that the absence of acidemia is sometimes more damaging to the body organs than not having acidemia, correct -- or having acidemia?

A. Yes. With your asphyxiated babies, with birth asphyxia, and they come out and they look asphyxiated and they act asphyxiated.

If they do not develop an acidemia, I'm especially worried about them. I think that's a very high-risk situation. If they get a mild or even moderate acidemia, they tend to do pretty well.

Q. Now, you're describing -- also you describe shunting that occurs normally when you go into a hypoxic situation, correct?

A. Well, with the asphyxia sequence, that happens.

Q. Well, it happens in prolonged hypoxemia, too, doesn't it, Doctor?

A. No, usually not.

Q. How do you explain then low oxygen levels in babies with congenital heart disease who don't sustain brain damage?

A. Okay, that's a good example. Those kids with congenital heart disease may be hypoxic, but they're not asphyxiated, they're not shunting, their kidneys aren't hurt.

You know, they're not showing asphyxia, they don't get acidotic, they don't drop their blood pressure, they don't go into kidney or liver

failure, but there's hypoxia and there's the risk of hypoxia to them, but they're not shunting.

Q. And yet no neurological damage in those children?

A. If it's severe and prolonged, they can. That's why we operated on them. That's why we try to get their oxygens optimized.

Q. Those are certainly very low PO 2 levels in many of those children, correct?

A. Yes.

Q. And very prolonged periods of time, obviously.

A. Variable, yes.

Q. Do those children tend to show any damage to any other organ if they have damage to the brain?

A. No. And that's a very good example of significant hypoxia not looking like asphyxia.

Q. All right, so I'm confused. Are you saying that those children can have damage to their brain but not show any multisystem organ failure?

A. Yes.

Q. Do you know of any articles that I can -- that you can send to me that I can review that supports your position?

A. I could find them. I'm willing to spend an hour coming up with articles that would show cyanotic heart disease resulting in brain damage without multi-organ dysfunction or failure. I know I could find articles that show that.

That's -- that's what happened. That's why cyanotic heart disease is bad and why we have to fix it, but they don't go into shock and multi-organ failure. That's a different process. Asphyxia is different than hypoxia.

Q. And your contention is that you don't get the multisystem organ failure unless you have asphyxia?

A. That's an asphyxial phenomena.

Q. And, again, explain to me the difference between asphyxia and a hypoxic condition. In your mind, what are the similarities and what are the differences?

A. I'm going to talk about acute asphyxia, it's a sudden event, hypoxia is part of it. They

get hypoxic, they build up acid, the heart tries to compensate, it ultimately gives out, the organs suffer, the brain gets hurt primarily from ischemia.

With asphyxia the brain damage is usually from the heart giving out and having ischemia to the brain. It's not even from the hypoxia.

Which is a whole different process than just having severe hypoxia for a prolonged period of time. Their hearts don't give out, they may not become acidotic, they don't go into kidney failure, they don't seize, but their brain cells can suffer a lack of oxygen.

Q. And then what do you typically see by way of blood pressure in the latter group?

A. Normal.

Q. Throughout?

A. Yes.

Q. And what do you typically see as far as pulse oximetry readings or PO 2 levels?

A. Low.

Q. How low?

A. Well, that's -- that's actually a good question, how low of hypoxia does it take to cause brain damage. I think it's a function both of how low and how long.

You could drop very low and if it's only for a minute or two or three or probably five, it's not going to hurt you. But if you drop moderately low for many hours, that can hurt you. So it's not just a function of how low causes damage, but how long and how low.

Q. And is there any difference in the incidence of multisystem organ failure in those two groups, one that's dropping very low for a shorter period of time, and one that's dropping low, not quite as low, for a more prolonged period of time? Neither would exhibit multisystem organ failure, in your opinion?

A. Because blood flow is being maintained, that's right.

Q. To those organs?

A. To the organs of the body.

Q. But not the brain?

A. Blood flow is maintained, it's not just

good blood. It's hypoxic blood. It's blood without enough oxygen in it, but there's blood flow going on.

Q. I'm sorry, it's hypoxic blood going to the other organs, too; why don't you see damage to those organs?

A. Their damage comes primarily from ischemia.

Q. Whose damage?

MR. BECKER: The other organs.

MR. BULLOCH: He's testifying, Mike. He's doing fine.

A. We're talking about these other organs, the kidneys. The kidneys can withstand the hypoxia. Ischemia is what really causes them to go into failure. The liver, it's generally not hurt from hypoxic, it's the ischemic component.

Q. The heart?

A. The same.

Q. The bone marrow?

A. Chronic hypoxia -- chronic turns on the bone marrow.

Q. How long does it take to turn on the

bone marrow?

A. I don't know the answer to that.

Q. Well, do you have any opinion? Is it days, is it weeks, is it hours?

A. I'd be speculating.

Q. Okay.

A. It would be total speculation, and I'm not going to do that today.

Q. And, Doctor, I don't want you to do that today. What I understand you're saying, though, unless you have an acute, sudden, dramatic asphyxial event, you're likely not to have multisystem organ failure, correct?

A. Correct.

Q. Then how do you explain the appearance of multisystem organ failure when you have uteroplacental insufficiency? Explain that to me, Doctor, because isn't that a prolonged, low level hypoxemia?

A. There is a prolonged, low level hypoxia. They don't go into multi-organ failure.

Q. You're saying that women that exhibit uteroplacental insufficiency do not show any hits

to the bone marrow, the kidney, the heart, the intestines, is that what your testimony is today?

A. No. We're talking about longstanding. Their bone marrow does get stimulated. The babies doesn't grow well. If their head keeps growing, their brain's fine, their kidney's are fine, their liver's fine, the heart's fine.

It's true that the bone marrow gets turned on; it doesn't fail. The bone marrow doesn't go into bone marrow failure or poor function, it gets turned on, it works overtime.

I don't think chronic placental insufficiency causes organ failure of any organ that I can think of.

Q. You've never seen that or you've never seen anything written on multisystem organ failure -- you know what I'm meaning by multisystem organ failure, is what we've been talking about, correct?

A. Yes.

Q. It's a hit to the kidneys, the liver, the heart, the intestine?

A. Right, we're talking about the same

process.

Q. I want to make sure we're talking about the same thing. You're not aware of any articles, or in your experience you've never seen any multisystem organ failure in a uteroplacental insufficiency, right?

A. If we're talking about chronic insufficiency, that's right. Now, if --

Q. And chronic you mean -- and I'm sorry to interrupt you -- but chronic you mean because the placenta is small for the baby as opposed to an abruption, correct?

A. Or the blood flow through the placenta isn't good, perhaps mom has hypertension or severe diabetes, or it's a bad placenta for some reason, or mom has chronic hypoxia. That can lead to chronic placental insufficiency to the fetus, and they do not go into multi-organ failure.

Q. Okay. And you also don't see it when the placenta is small for the baby's size, correct?

A. Correct.

Q. All right. Doctor, article 22 is

listed in your CV, it's a 1995 article, it's entitled incidence, timing and follow-up of periventricular neuromalacia. I believe you authored that article with your wife, correct?

A. She was the first author.

Q. You're well aware of that article, correct?

A. Yes.

Q. One of the findings was that cystic PVL occurs between 17 and 104 days of age, correct?

A. Yes.

Q. And you also found a strong correlation between PVL and spastic diplegia, correct?

A. Yes.

Q. What causes PVL?

A. I think there are two main causes, and they're totally different. One cause is poor blood flow to the brain of these small premies -- and it's nearly always in small premies, not big premies -- but poor blood flow to the brain commonly from low blood pressure or very low carbon dioxide levels.

In the last ten years we've recognized

a second cause, and I don't even think we knew about it in 1995, and I don't think we mentioned it in there, and that's maternal infections, intrauterine infections in these small premies.

It can release some chemicals that can hurt the brain. So there may be maintenance of blood flow to that area, but these chemicals go to that part of the brain and destroy it.

Q. And the chemicals and the syndrome that you're referring to is fetal inflammatory syndrome, and it releases cytokines and things like tissue necrosis factor, correct?

A. Yes. And I don't think that was talked about in 1995. I know we didn't mentioned it in that article. That's relatively new knowledge.

Q. In your study -- I'm sorry, those were the only two things that caused PVL as far as you are aware of, correct?

A. Yes.

Q. In your study, none of the children -- none of your findings show any association between PVL and athetosis or athetoid movements, correct? I've got the article if you want to take a look at

it.

A. I think that's right. Usually it's in the area of the brain that would cause spasticity to the legs.

Q. Right. So you're going to say spasticity but not athetosis, correct, related to PVL?

A. Yes.

Q. What causes athetosis in a baby?

A. Damage to some deeper matters of the brain, I believe in the gray matter around the basal ganglia, a different area of the brain getting hurt.

I'm not going to be able to go too far into this conversation, because you're beginning to take me into neurology, but I'll try my best.

THE WITNESS: I'm going to take 30 seconds.

MR. BULLOCH: Oh, sure.

(Recess taken.)

Q. Doctor, in your newer CV that you don't have a copy of that's in front of you, could you take a look at page 11?

A. They're totally different. What's the article?

Q. It's actually numbered, number 49.

A. Okay.

Q. What is that article titled?

A. Cerebral palsy.

Q. Do you recall what that article was about?

A. That's the preface to the book. It's about two or three pages long.

Q. This is the current book that is coming out?

A. Any day now. I was hoping I would have it for today.

Q. And article 50, what is article 50?

A. Perinatal infections and cerebral palsy. It's a chapter in that book.

Q. And does that -- you authored that chapter?

A. Yes.

Q. With your wife?

A. Yes.

Q. Okay. And does that deal with

primarily fetal inflammatory syndrome that we've discussed?

A. Not primarily, but extensively.

Q. Okay.

A. It's -- that concept and the cytokine concept are discussed, and I do say that that's a cause of cerebral palsy in small preterm infants.

Q. And that particular chapter deals with other types of infections like viral infections, for example?

A. Yes.

Q. What viral infections can cause cerebral palsy?

A. The most common one would probably be what we call CMV. Others, herpes, but they're relatively uncommon.

Q. Did you see any evidence that Margo Wagoner had a CMV infection?

A. No.

Q. You reviewed the prenatal records?

A. I don't remember seeing those.

Q. Does the CMV infection have to be active at the time of the delivery, or can it be a

longstanding infection or process?

A. No, it's a longstanding. Many women don't know they have it.

Q. So if there's evidence in the record -- and I don't quite honestly know if there is or there isn't -- but if there's evidence in the record that Margo Wagoner had a CMV infection, would that be important to your analysis in this case?

A. No.

Q. Does CMV cause PVL?

A. No.

Q. How does CMV manifest in a baby?

A. 90 percent of the time it's asymptomatic and it has no effect on the baby, they're fine, nine babies out of ten that are born with CMV.

Q. Obviously I'm not interested in the nine out of ten, I'm interested in the one that affects the baby. What happens in that baby?

A. To that brain specifically, some of them are born with what we call microcephaly, which is a very small head, very small. Others are born

with calcifications in their brain. When you see this pattern of calcium deposits, that's not good.

They have hearing problems and vision problems. Well, if you take away your hearing or your vision sense, you don't develop very well either. So that's another reason they don't develop very well.

Q. Are there any other infections that cause cerebral palsy that mom can transmit to the baby?

A. There are many, many ways that maternal infections can cause cerebral palsy. We mentioned some of these viruses. Related to that would be things like rubella, toxoplasmosis, syphilis.

I think what's relatively common is for women to get infected -- get an intrauterine infection late in pregnancy, and it causes the placenta not to work well, and those babies are born asphyxiated. They're asphyxiated babies from bad placenta functioning, so that's harmful to the baby.

Q. And, again, can it be a longstanding infection that causes some uteroplacental

insufficiency, and that could cause damage to the baby's brain without causing a recognized asphyxial event?

A. I don't think so. I don't think when we're talking about longstanding placental insufficiency that we consider chronic infections to be a cause of that. Usually it's a placental, or blood flow or blood vessel issue, but not an infection.

Q. Doctor -- I'm sorry, I didn't mean to interrupt you. Are you done?

A. Yes.

Q. On your presentations, and I didn't write down the page, but there's one numbered 51 --

A. Yes.

Q. -- on the CV that's been marked as an exhibit. Can you tell me the title of that presentation?

A. Common resuscitation errors, strategies for improving your likelihood of success.

Q. Does that have anything to do with surfactant rescue, or is that more birth

resuscitation?

A. Birth issues.

Q. Doctor, I wanted to explore with you a little bit your testimonial history. How many cases do you review on behalf of a lawyer during a typical year?

A. Fifty.

Q. And that number has been pretty constant for a fair number of years, correct?

A. Yes.

Q. I understand that you've been doing 50 cases a year since the 1980s, correct?

A. The late '80s.

Q. So if my math is correct -- and I don't vouch for my math, it's not one of my strong suits -- but you've reviewed over a thousand cases in your career, correct?

A. That's about right.

Q. What percentage has been on behalf of the plaintiff as opposed to on behalf of the defendant?

A. 80 percent.

Q. 80 percent on behalf of the plaintiff?

A. Yes.

Q. 20 percent on behalf of the defendant? Have you reviewed any cases recently for any defendants?

A. Yes.

Q. Do you recall --

A. I have two from the last month that I can think of.

Q. Do any of those deal with surfactant?

A. No.

Q. Have you reviewed any cases on behalf of a defendant that dealt with the administration of surfactant?

A. I've looked at a thousand cases over 20 years, and I don't remember one for either defense or plaintiff having to do with surfactant. I do not remember this being an issue in any other case.

Q. So it's very rare from a medicolegal standpoint, correct?

A. It's rare clinically not to give surfactant in a case like this. People give it, that's why it's rare.

Q. All right, we'll get to that. I didn't

see in your file, Doctor, anything on billing statements, but do you have any idea how much time you have spent in reviewing this case on behalf of the Becker, Mishkind law firm? I'm not -- you know, I understand you do a lot of cases, so a very rough estimate based on the volume of material here?

A. Before the -- if we exclude this deposition and preparation, I would have said around five hours.

Q. Is that pretty typical for a case that you review?

A. Commonly it's two to three hours.

Q. Okay.

A. And then not much happens until the deposition. This was a little more because there were reports coming in and x-rays coming in and phone calls going on.

Q. How many depositions do you sit for a year?

A. Twenty.

Q. And how much time do you typically spend preparing for a deposition?

A. It's highly variable. Anywhere from one hour to ten hours.

Q. What would you say it averages?

A. Three or four.

Q. And how many times have you appeared at trial?

A. Two or three.

Q. This year?

A. Oh, I thought you meant in a typical year. Well, actually this year I think it's been three. I don't know why, but there were a lot all at once in like February and March.

Q. Okay, but two to three per year is typical?

A. Yes.

Q. You spend some time preparing for trial, I presume?

A. Yes.

Q. About how many hours do you typically spend preparing for trial?

A. Two or three on the records, and then I always read my own deposition, and then anything else that I think is important, such as other

depositions or -- so four to six hours.

Q. And then I don't assume many cases are up here in Nashua, correct?

A. I don't know what you mean.

Q. Well, let me ask it this way. You've represented plaintiffs -- you've served as an expert on behalf of plaintiffs and defendants all over the country, correct? There's not very many states you haven't served as an expert witness in?

A. I have served as an expert in between 30 to 35 states.

Q. All right.

A. And just yesterday I got a call from Hawaii.

Q. Lucky you.

A. I've never been to Hawaii.

Q. Never been to Hawaii; you're going to enjoy it.

A. I turned it down, because I can't travel that far for personal reasons.

Q. I assume that you probably have to travel for an entire day when you testify at trial, is that fair?

A. I do everything I can to turn it into a day trip. I had a trial this spring in Birmingham, Alabama, and I went from here to Birmingham and back in the same day. That's hard to do.

Q. It is hard to do. I've done that myself many times. What do you charge to review a case, Doctor?

A. 350 an hour.

Q. And to testify at deposition?

A. When we do them here, it's $2,000 for a half-day deposition. If I have to travel somewhere, it might be a little more.

Q. Do you charge expenses as well?

A. I'm not charging you for the coffee, if that's what you mean.

Q. I'm sorry, bad question. I'm asking you if you're traveling --

A. Oh, yes.

Q. -- you're charging expenses, but do you charge your travel time as well?

A. But just for coach airfare and a cheap hotel, nothing fancy.

Q. But what I'm getting at is if you're

traveling for a deposition, you're traveling from door-to-door, I assume, from the time you leave your home to the time you return home?

A. No. I'm aware that some experts do that. I've never felt comfortable with that concept.

MR. BULLOCH: Off the record.

(Discussion off the record.)

Q. Doctor, what percentage of your income do you believe is derived from your work as a medicolegal expert?

A. 20 percent.

Q. And would you estimate that that's consistent with the amount of time that you spend, 20 percent of your professional time is spent as a medical expert?

A. No, time-wise it's probably more like 10 per 15 percent of my time.

Q. Do you remember being deposed last year by a Chris Troy of this law firm in a case called Gabrick versus Marymount Hospital?

A. I don't remember that. I know there was a case called Gabrick. I don't remember who

the lawyers were. Who was the plaintiff lawyer, that might help me?

Q. I have no idea, sir. I'm sorry. Has the amount of time that you spend -- I don't think it has because you told me you're still working on 50 cases a year, but has the amount of time changed in the past year that you spend?

A. It might be down a little bit this year, maybe 10 percent.

Q. All right. But 10 to 15 percent is roughly the amount of time that you spend of your professional time serving as a medicolegal expert --

A. Correct.

Q. -- is your best estimate as we sit here today?

A. Yes.

Q. Have you ever served as a medical expert for the Becker & Mishkind law firm?

A. Yes.

Q. How many times, do you know?

A. I think we had one trial in Cleveland.

Q. Do you know the name of the case?

A. No. I remember a little bit about what the case was about.

Q. That's all right.

A. But not the name. This was five to ten years ago, and I believe it was in Cleveland, and I've probably given a half dozen depositions over the years.

Q. Do you know how many times you've been asked to review cases for the Becker, Mishkind law firm?

A. About double of that. It seems like I find merit to about half their cases.

Q. So about 12 times you've reviewed cases on behalf of Mr. Becker; attorneys in his office?

A. Pretty much it's only Mr. Becker. I don't know the other people.

Q. Do you know Howard Mishkind?

A. I've talked to him once on the phone, but I've never met him.

Q. Did he send you a case?

A. He sent me one case, I turned it down. I looked at it, and they didn't use me. He didn't like what I said, I guess. I didn't see any merit

to it.

Q. David Kulwicki, have you ever reviewed any cases for a David Kulwicki in Cleveland?

A. I don't remember.

Q. How about a John Burnett?

A. I know I've talked to him at some time. I've never met him.

Q. Larry Peskin?

A. Doesn't mean anything to me, I've never heard that name.

Q. What about Pam Pantages?

A. I don't know her.

Q. Doctor, have you ever been a defendant in a lawsuit?

A. Technically twice; realistically, only once.

Q. Do you remember what the allegations were in those lawsuits?

A. Well, that's why I said technically twice. In one case there was no allegation. They filed papers without a complaint, without allegations, just to beat the statute of limitations, you can do that in Pittsburgh.

Q. Okay.

A. And then after about six months, they withdrew. There was never discovery, never a settlement, never a complaint. There were no allegations.

Q. Okay.

A. The other case did file a complaint, I did give a deposition, and I was released from the case just before it went to trial against two obstetricians.

Q. Okay. I assume, then, you agree with me that just because a doctor is sued does not mean that the doctor was negligent, is that a fair statement?

A. That's fair.

Q. And similarly, just because there's a bad outcome, a child has a bad outcome, does not necessarily mean the doctor was negligent either, does it?

A. That's correct.

Q. And I assume then you would agree that just because a child has cerebral palsy doesn't mean necessarily that the doctor did anything

wrong either, correct?

A. Correct.

Q. In fact, most cases of cerebral palsy are not caused by physician negligence, true?

A. True.

Q. You have this Clinics in Perinatology coming out, the Perinatal Causes for Cerebral Palsy in which you're the guest editor, correct?

A. Correct.

Q. In fact, you've had several publications with Clinics in Perinatology, don't you?

A. This is my second, and I've been in contact with them about completing my trilogy in 2007.

Q. All right, I have obtained an advance copy.

A. You have.

Q. Yes, I have.

A. How did you do this?

Q. I had to pay for it.

A. Did you really? I haven't even seen it, isn't that terrible?

MR. BECKER: I've had some publishers refuse to do that.

THE WITNESS: I'll be.

MR. BECKER: But if you work for a defense firm, they make exceptions.

MR. MOSCARINO: Off the record.

(Discussion off the record.)

Q. You asked me how I found it?

A. No, is it any good? Could you find anything interesting in it?

Q. A lot of interesting in it. It's very good. It's a very interesting publication. I'm sure it will sell well.

A. Okay.

Q. Anyways, you were asked to be the guest editor of this publication, correct?

A. Yes.

Q. And in the preface you have analyzed the contribution of each process that causes cerebral palsy, correct?

A. Yes.

Q. And --

MR. BULLOCH: You know what, let's make

that an exhibit.

(Hermansen Exhibit No. 5 was marked for identification.)

Q. Now, since we've marked this as an exhibit, I'm not going to bother reading through all of these, but where does Matthew Wagoner fall in these?

A. The first, complications of prematurity. That's the most common cause.

Q. Well, prematurity, though, itself can cause cerebral palsy, correct? If a baby is born early enough, the brain is not fully developed, and the child can have cerebral palsy, correct?

A. It's probably more proper to say complications of prematurity. Something has to go bad for that brain to develop cerebral palsy.

Q. Well, there's a lot of children born premature, low birthweight, and there's nothing indicated in the medical record or in the mother's prenatal record, there's genetic testing, there's metabolic testing, and there's really no findings of anything abnormal, correct?

A. There are some patients who are worked

up totally and you don't find a cause, that's the final group on here, idiopathic, 5 to 10 percent.

Q. So the premature brain where all the neurons are not fully formed itself is not a cause of cerebral palsy is your opinion, correct?

A. Correct. That brain may be vulnerable and susceptible to insults more than a term brain, but it's the insult to that premie brain.

Q. In another article you talk about gasping. Is that equivalent to grunting?

A. No, totally different.

Q. What is gasping?

A. Medically we use that term the same as laypeople do, it's taking a gasp for a breath. Usually it happens late in asphyxia. I -- I've never seen it written, but I've always believed if I see somebody gasping, a baby, their pH is below 7. I think it happens with severe asphyxia and severe acidosis. They take a gasp to breathe, attempt to breathe.

Q. And you didn't see any evidence of gasping in Matthew Wagoner's medical record, correct?

A. Correct.

Q. Do you have to take that, Doctor?

A. No, I was going to tell you gasping is to catch one's breath with an open mouth as in exhaustion or astonishment. So to catch one's breath with an open mouth.

Q. This is a late symptom, correct?

A. With asphyxia, yes.

Q. Now, you say prematurity and intrauterine growth rate restriction. You're talking about small babies for gestational age?

A. Yes. That's what the latter of those two terms means. There's one chapter in the book about that concept, and here we're dealing with chronic hypoxia causing poor growth.

Q. And what percentage is caused by prematurity and which percentage is caused by intrauterine growth rate restriction, if you know -- the percentage of CP is caused by prematurity?

A. Of those two, it's probably 80 percent prematurity, 20 percent growth restriction. It's predominantly prematurity, but I lumped them

together.

Q. So 30 to 40 percent is caused by what you're calling complications of prematurity, right?

A. Yes.

Q. Now, if I look in the rest of this text, I'm going to find a chapter, apparently, on prematurity?

A. Yes, a doctor from the University of Chicago.

MR. BECKER: While he's looking, I'm just going to run into the bathroom here.

MR. BULLOCH: I could use a little break, too. Why don't we take a five-minute break.

(Discussion off the record.)

MR. BULLOCH: Let me ask you this one question before I take a break, because I could use one, and I'm sure the court reporter could use one, too.

Q. Doctor, I'm handing you the table of contents from the upcoming release of your textbook, Perinatal Causes of Cerebral Palsy, and

you told me a moment ago that there was a chapter in there on prematurity. Could you point out to me what chapter you're referring to that deals with complications of prematurity?

A. It's this bottom one on the first page.

Q. So the chapter you're referring to that would deal with complications of prematurity is captioned the Panorama of Cerebral Palsy After Very and Extremely Preterm Birth: Evidence and Challenges, correct?

A. Yes.

Q. And that's by a doctor you said was out of Chicago by the name of Doctor Michael Msall?

A. Yes.

Q. Now, the chapter says very and extremely preterm birth. Was Matthew very preterm or extremely preterm?

A. No.

Q. In fact, Doctor Msall described very preterm as less than 32 weeks, correct?

A. That's reasonable.

Q. And extremely preterm as less than 28 weeks, correct?

A. That's reasonable.

Q. And Matthew was dated by Dubowitz and other methods as about 35 to 36 weeks at birth, correct.

A. Most references in the chart say 35. I've seen 34, I've seen 36, but I'm going to say 35, give or take a week.

Q. And I'll compromise with you, Doctor, 35 is appropriate.

So I asked you the question -- well, maybe I didn't ask you the question. Do you believe that the information in this chapter is related to Matthew Wagoner?

A. We'd have to look specifically. I'm sure part of that chapter would be and part of it's not.

Q. All right.

MR. BULLOCH: Let's take a break.

(Recess taken.)

BY MR. BULLOCH:

Q. Doctor, before we broke we were talking about the preface that you had generated in the Clinics in Perinatology, and we've also marked an

exhibit marked Hermansen No. 2, Exhibit No. 2, that I believe you represented to me that you drafted after you read Doctor Alder's testimony, correct? It would be this document --

A. Yes.

Q. -- I'm showing you? And in that document you listed various causes of cerebral palsy, correct?

A. Yes.

Q. Now, the document that you did in the Clinics in Perinatology, you said that you analyzed data from the authors that were in the issue -- in that particular issue of Clinics in Perinatology, right?

A. Yes.

Q. You developed this list --

A. Yes.

Q. -- on Exhibit 5 after analyzing all the articles that were contained in that volume, correct?

A. Yes.

Q. Where did this information come from that's been marked as Exhibit 2? And I'll show it

to you, again, sir, so you can --

A. I had a draft of the preface on my computer, and I went back to that draft to come up with this list.

Q. Okay. Now --

A. I did that yesterday.

Q. Some of the numbers are different?

A. That's because it was a draft, and the final, it got a little bit changed, but it's not much different.

Q. You don't have a copy of the final draft?

A. No, I didn't have it in my computer. I looked.

Q. Who would have made the changes between the draft you have in your computer and the final draft that is being published?

A. Oh, I did. I did. Those numbers aren't precise. In fact, that's what's better about the final draft is it gives some leeway into every category, just to point out the lack of precision. I don't think you're going to find many significant differences.

Q. I think you mentioned earlier that a neonatal hypoxic event that's sufficient to cause PVL brain damage is rare, is that correct?

A. Yes.

Q. And, in fact, you didn't list that as one of the causes of PVL brain damage or CP in either your article or this document that we marked as Exhibit 2, correct?

A. Well, PVL would be a complication of prematurity. Premature CP cases are to a large extent PVL.

Q. Okay.

MR. BECKER: Are you going to mark those articles?

MR. BULLOCH: No, I'm going to give those back to the Doctor.

MR. BECKER: Be sure to give them back to him.

Q. The injury that -- in your report that you believe Matthew Wagoner sustained is PVL brain damage, correct?

A. At this point it appears not. It appears he does have some white matter damage, but

some people with more expertise than I are concluding it's not PVL, as I understand it. At least --

Q. Where are you obtaining that information from?

A. From expert reports, and I even think Doctor Alder in his deposition. I don't think he's calling it PVL, and I know the neuroradiologist says it's not PVL, that there's white matter damage in the brain, but it's not PVL.

Q. Well, one of the things you said causes PVL is hypoxic ischemic injury, correct?

A. I said ischemia to the brain.

Q. And does white matter injury that you believe Matthew is now suffering from, what is the cause of that white matter damage?

A. The pneumothorases on the evening of the 25th.

Q. Okay.

A. Associated with severe hypoxia over a prolonged period of time.

Q. Do most babies that suffer from asphyxia or hypoxic ischemic events end up with

cerebral palsy?

A. No.

Q. In fact, most babies that have hypoxic ischemic injuries are totally normal, is that correct?

A. Well, I -- I don't like it when you put the word injuries in there. Injuries implies that damage occurs. But most babies following birth asphyxia with hypoxia and ischemia turn out normal.

Q. Okay.

A. But once they are injured, it's a little awkward saying they're normal. Injury to me implies damages.

Q. Good point. Do most children that experience hypoxic events -- and I'm talking about babies that experience hypoxic events in hospitals -- do they end up with white matter damage consistent with what Matthew has?

A. No.

Q. Do most babies that experience pneumothoraxes experience any type of white matter damage consistent with what Matthew has sustained?

A. Not most, but many do. It clearly is a

risk factor. But most will recover, but many suffer damages.

Q. Well, do you have any idea of what percentage of children with pneumothoraxes end up with -- I'm sorry -- let me go back. Yeah, with pneumothorax experience white matter damage?

A. I'd have to look up in the literature. I think I would probably find numbers like 15 or 20 percent, but I am not confident with that estimate. I might be off quite a bit there.

Q. In your CV, you were a participating investigator in Vermont Oxford Network in 1997, correct?

A. Yes.

Q. Have you been involved with that organization since that time?

A. Not really.

Q. What is the Vermont Oxford Network?

A. It's a large coalition of hospitals sharing outcome data.

Q. Respected entity?

A. Yes.

Q. Well-controlled studies?

A. Some, yes.

Q. Do you know a Doctor Soll?

A. Yes.

Q. S-O-L-L?

A. From Vermont.

Q. There is a database, Vermont Oxford database, correct?

A. Yes.

Q. Are you familiar with the Vermont Oxford database in which there were 3,505 infants between 1,400 and 1,500 grams, these are babies with RDS, and significant proportion -- or a proportion, I shouldn't say significant, I retract that -- but a certain number of those children never received surfactant?

A. That's probably true.

Q. Do you believe that physicians that failed to administer surfactants to these tiny babies are negligent?

A. You would have to look at each individual case to decide that. I would hope that.

MR. BECKER: Let me just stop there and say that we'll produce Doctor Hermansen for a

continuation at a mutually agreed date, and I apologize for leaving early.

MR. BULLOCH: That's all right. We will finish this up later. Have a safe trip back.

(The deposition was adjourned at 11:37 a.m.)

C E R T I F I C A T E OF W I T N E S S

I, MARCUS C. HERMANSEN, M.D., do hereby certify that I have read the foregoing transcript of my testimony, and further certify that it is a true and accurate record of my testimony (with the exception of the corrections listed below):

Page	Line	Correction
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

_____

MARCUS C. HERMANSEN, M.D.

Sworn and subscribed to before me this _____ day of _____, 2006.

_____

Notary Public

My Commission expires: _____

CERTIFICATE

I, Pamela J. Carle, Registered Professional Reporter, do hereby certify that the foregoing is a true and accurate transcript of my stenographic notes of the deposition of MARCUS C. HERMANSEN, M.D., who was first duly sworn, taken at the place and on the date hereinbefore set forth.

I further certify that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this deposition was taken, and further that I am not a relative or employee of any attorney or counsel employed in this case nor am I financially interested in this action.

THE FOREGOING CERTIFICATION OF THIS TRANSCRIPT DOES NOT APPLY TO ANY REPRODUCTION OF THE SAME BY ANY MEANS UNLESS UNDER THE DIRECT CONTROL AND/OR DIRECTION OF THE CERTIFYING REPORTER.

_____

Pamela J. Carle, CCR, RPR