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DOROTHY BARBAGALLO, Mother and Next Friend of JOSHUA BARBAGALLO, Infant, et al.,	)	Before the Health Claims Arbitration Office of Mary1and
Claimants,	)	
-vs-	)	
ANONG LEKAGUL, M.D., et al.,	)	HCA No. 92-361
Defendants.	)	

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DEPOSITION OF: MARK S. SCHER, M.D.

- - - -

DATE: January 25, 1995
Wednesday, 9:25 a.m.

PLACE: The Holiday Inn
University Center
100 Litton Avenue
Pittsburgh, PA

TAKEN BY: Claimants

REPORTED BY: Janette Dukic, RPR
Notary Public

CERTIFIED TRANSCRIPT

DEPOSITION OF MARK S. SCHER, M.D., a witness, called by the Claimants for examination, in accordance with the Federal Rules of Civil Procedure, taken by and before Janette Dukic, RPR, a Court Reporter and Notary Public in and for the Commonwealth of Pennsylvania, at the The Holiday Inn, University Center, 100 Lytton Avenue, Pittsburgh, Pennsylvania, on Wednesday, January 25, 1995, commencing at 9:25 a.m.

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APPEARANCES:

FOR THE CLAIMANTS:
Philip C. Federico, Esq.
SCHOCHOR, FEDERICO and STATON, P.A.
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Baltimore, Maryland 21202
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FOR THE DEFENDANTS:
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* I N D E X *

* INDEX OF EXHIBITS *

MARK S. SCHER, M.D.,

having been duly sworn,

was examined and testified as follows:

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EXAMINATION

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BY MR. FEDERICO:

Q. Doctor, your full name for the record.

A. Mark Steven Scher, with V.

Q. Your current professional address?

A. Children's Hospital of Pittsburgh, and Magee-Womens Hospital.

Q. Do you work with Dr. Bergman?

A. Yes.

Q. Are you in the same department?

A. Yes. There are eight of us, and he is one of my colleagues in child neurology.

Q. He does a little forensic work, doesn't he?

A. From what I understand, yes.

Q. I understand we have met before, and I have a copy of your CV, I think, back at my office, but it is probably two or three years old. Would you be kind enough to send counsel a copy of your CV, and he will send it along to me?

A. I would be happy to.
Q. Good. When were you first contacted in this case?
A. Sometime in either early '94 or late '93.
Q. Do you have everything that you have reviewed in this case in front of you?
A. Yes, I do.
Q. When you were contacted initially what did you receive?
A. I received the medical records for the Barbagallo family, both mother and child, and some follow up records, although not all, obviously.
Q. Based on your review of that initial material, did you formulate the opinions you now hold in this case?
A. Yes.
Q. Did any of the subsequent material that you reviewed significantly impact upon the opinions that you currently hold?
A. No.
Q. You have some notes there, correct?
A. Yes.
Q. And you made these when you initially reviewed the case?
A. Correct.

Q. We will mark them Deposition Exhibit No. 1, and I would like to attach a copy of that to the transcript.

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(Document marked for identification Deposition Exhibit No. 1.)

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BY MR. FEDERICO:

Q. In terms of materials that you have reviewed, why don't we put all of the medical records in one pile, all of the depositions in another pile, and sort of just --

A. There are Volumes 1 through 5 that I believe were the initial pieces of information that were sent to me related to Holy Cross, and John's Hopkins records for the child.

Q. Let me stop you there.

A. Okay. Do you want to see it all?

Q. No. Just leave it right there.

A. Okay.

Q. If you don't mind, I am just going to come around. What I would like to do, Denise, if it is all right with you, is just mark as Deposition Exhibit 2 --

MS CLARK: The index?

MR FEDERICO: Yes The indexes from the Volumes 1 through 5 of these records

Can we do that?

MS CLARK: I don't have any problem with that Actually, this is the index that covers all

MR FEDERICO: Does it cover all of them? That's perfect Thank you. It is three pages, and that is number two

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(Document marked for identification Deposition Exhibit No 2)

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BY MR FEDERICO:

Q And then in addition to the records, Volumes 1 through 5, have you received any other records?

A Subsequently, under three different mailings, I have received depositions and more recent updated medical records.

Q Why don't you just tell me what those are

A On October 6th, I received a series of depositions, and I can name them by person, if you would like

Q Please.

A Doctors Branch, Vincent, Hermansen, Fields, Michael

Alexander, a life plan for Joshua, Ed Myer. That was out of that mailing of the 6th of October of '94.

On October 20th, I received updated medical records regarding Joshua that included Kennedy-Krieger records, Dr. Singer's records, Mount Washington Hospital records, Dr. Lazor's records, John's Hopkins GI and Nutrition Service records, and Dr. Baroody's records.

Finally, January 18th of '95, I received three depositions, Dr. Collea, C-o-l-l-e-a, Dr. Worthmann, with two n's; and John Freeman, and that's it.

Q. Now with regard to your CV, do you have any publications that you believe relate to the issues in this case?

A. I think indirectly. I think the subject matter in the publications deal with neonatal seizures, deal with persistent hypertension of the newborn, deal with hydrops fetalis, and deal with anti-partum onset of injury, so in general, those themes.

Q. Would you be kind enough before you send us your CV to circle any publications you believe in any way relate to the issues in this case?

A. Sure.

MS. CLARK: Do you want him to make a notation as to whether they -- I think he said that all of them are indirectly related, but upon review, if he finds something else --

MR. FEDERICO: Absolutely.

MS. CLARK: -- indicate which ones are.

MR. FEDERICO: Absolutely.

BY MR. FEDERICO:

Q. I wouldn't expect that sitting here today without your CV in front of you. You probably have many, many publications and you can't remember.

A. Well, you should also know that 1 have not published specifically on lupus, maternal lupus and its association with children. Although I have seen the kids in practice, I have no publications of that.

Q. Have you published on hypoxic ischemic encephalopathy?

A. Not as a major topic of itself. These are clinical reports or studies, of which should have included hypoxia or ischemia.

Q. Any publications that relate to the issues in this case?

A. Sure.

Q. I would like to talk to you about the amount of the forensic work you have done over the past two years. Can you estimate the number of cases that you have looked at in the last two years?

A. Yes, I have probably see 10 to 12 cases a year.

Q. And of those 10 to 12 cases a year, how many are on behalf of the plaintiff, how many are on behalf of the defendant?

A. It will vary, but I would say it has been pretty steady that about three quarters are defense and about a quarter are plaintiff.

Q. Have you ever looked at any plaintiff's cases for any lawyers in Maryland or the District of Columbia?

A. Not to my recollection.

Q. Can you give me the names of any plaintiff's lawyers you have ever reviewed cases for?

A. In the state of Washington I am looking at a case now, which is transferred from one plaintiff to another plaintiff lawyer. The original plaintiff lawyer I do remember. Her name is Judy Massong, M-a-s-s-o-n-g.

Q. Where in the state of Washington?

A. I think she is out of Seattle, but she is a very recent one. I don't keep files on this stuff, but I

have reviewed the case recently. It has been moved over to another attorney's office, Paula Vera.

Q. Are there any other plaintiff's attorneys that you remember having ever reviewed a case for or testified for on behalf of their clients?

A. I don't remember names. I remember states.

In Iowa, I looked at a case that was plaintiff. I have looked at several in New Hampshire and several in Florida, but I don't remember the names of these guys.

Q. Do you remember the names of the firms?

A. No, I am sorry, I don't.

Q. Now have you ever looked at a case for Wharton, Levin, Ehrmantraut, Klein & Nash?

I think that is it for now.

A. Over a fair number of years, I think probably three or four.

Q. And what other firms in Maryland have you reviewed cases for?

A. There are other firms. I don't recall them. At least one other I have reviewed for -- I don't remember their names, but I know there is at least one of them in Maryland, a firm that I reviewed.

Q. In the past two years, can you estimate the number

of depositions that you have given per year?

A. Probably over the two years, a dozen, maybe six a year.

Q. And have you made any court appearances or arbitration appearances in the last two years?

A. Maybe on one or two occasions, and they were defense. In Ohio, I believe. I know I was out in Maryland for a case as well, and it may even have been for this firm, and that's about it.

Q. The case in Maryland, do you remember the name of either the plaintiff or the defendant or any of the lawyers involved?

A. No, I don't. I am sorry, I don't. It was an arbitration. It was not a trial.

Q. Where was the arbitration held?

A. Baltimore.

Q. Can you recall anything about the case, the issue?

A. It was not lupus in the mother, but it was issues of examples, giving causation issues of when the injury occurred, and I thought it was more chronic, and, obviously, the opposing arguments by plaintiff's experts was it was more acute.

Q. Do you remember any of the plaintiff's experts in the case --

A. No.
Q. -- or any of the defense experts in the case?
A. No.
Q. And in the Ohio case you testified in, what city was that in?
A. Cleveland.
Q. Do you remember the names of either of the parties or any of the parties or any of the lawyers involved in that case?
A. I am sorry I don't, no.
Q. When did you last testify in arbitration or court? How long ago?
A. It might have been that case in Maryland. That was the last time.
Q. 1994?
A. No. No, I do not believe it was in '94. It may have been just the beginning of '94 or the end of '93. Actually, it may have been right in the beginning of the year, because it was wintertime.
Q. When did you last give a deposition?
A. In the fall. Sometime September or October, that area.
Q. Where was that case from?
A. North Carolina.

Q. Were you for the plaintiff or the defendant?
A. Defense.
Q. Do you remember the names of any of the parties or any of the lawyers?
A. That lawyer was Creech, C-r-e-e-c-h, and this was a video deposition. That's why it stands out, because I couldn't make the trial.
Q. What is your current charge for your review of cases?
A. Hourly charge is $350 an hour.
Q. How many hours do you think you have into this file, given all these medical records, and I am sure you have reviewed them more than once?
A. About of all of the total hours ever since I looked at it?
Q. From the time you first were contacted until now, can you estimate the number of hours you have in this case?
A. Between 10 and 20.
Q. Have you sent a bill yet for your time?
A. An initial bill, yes. At least one, maybe two, because I have had several instalments, but probably two bills.
Q. Would you send copies of those to counsel, and I

would ask that counsel send me copies?

A. Yeah. I will try to locate them, sure. I may have copies of them.

Q. Now, can you estimate for me if you look at 12 cases, plus, minus the year, can you estimate for me on either a weekly basis or a monthly basis about how many hours you spend reviewing in your free time medical legal matters?

A. It really varies. It is weekend and night stuff. It could be none for the week or it could be five or six hours on a weekly basis, at the most.

Q. On a monthly basis, would it be fair to say that you average somewhere around 10 to 15 hours a month?

A. Without thinking off the top of my head, I would say that is a reasonable estimate, yes.

Q. And is your charge for a deposition or court appearance? What is that?

A. The same.

Q. If you come to Baltimore, do you charge 300 an hour essentially portal to portal or how did you do that?

A. I haven't done that that often, but I usually discuss it with the attorney for courtesy, but usually not. If I am working, that's $350 an hour. If it is travel time, I think I have charged in the

past a hundred dollars an hour for just travel.

Q. The last time you came to Maryland, can you estimate for me what the charge was for that trip?

A. Probably a couple thousand, because it is the same day in and out.

Q. Now that 1994 is over and we are into '95, can you estimate for me approximately during the calendar year how much you earned doing forensic work?

A. A range.

Q. Yes.

A. Probably between 25 and 50,000, depending upon the urgency of reviewing a case and how long the case is requires my assistance.

Q. Have you ever been a defendant in a malpractice case?

A. As a resident at Cornell, I was named as one of four residents with a child who died, and that case was dismissed or settled. Presently, there is a case pending against -- most of the members of our division with a child's seizures.

Q. Dr. Bergman told me about that case.

A. He may have been named or may not have been named, and I think that's it.

Q. You mentioned Cornell. Do you know Abe Katorian?

A. Very well.

Q. Do you respect him and consider him an expert in pediatric neurology?

A. I respect him. He is a very smart man. It would have to be depending on his particular opinion whether I agree with everything he says, because I don't think we can possibly agree on everything.

Q. Well, I wouldn't think that you would agree with everything he says, necessarily. Do you know Ed Myer?

A. I know him less well. I say "hello" at meetings, but we are not drinking buddies.

Q. Is he a well respected pediatric neurologist in the pediatric neurology community?

A. I would assume *so*. He runs a division in Virginia in Richmond, so I am sure he is a competent child neurologist.

Q. Did you look at any literature as it would relate to the issues in this case?

A. Not specifically. I look at literature all the time, but for this case I didn't need to, but I am aware of various literature regarding issues that are in this case.

Q. Let's talk about that literature. What literature

are you aware of which addresses the issues in this case?

A. The issue of timing of neurologic insult based on clinical and laboratory information. The entity of hydrops fetalis and persistent fetal circulation. Those two clinical diagnoses. The medical, the maternal prenatal problem of lupus erythematosus, systemic lupus erythematosus, and, in general, vascular diseases of the mother and baby, which may have potential damaging effects on baby. Seizures and asphyxia, and their relationship to the presentation of a child at birth clinically.

Those general -- that's a lot of literature, but in general, those are the things that impinge on Joshua Barbagallo.

Q. Now in terms of the literature, can you give me the names of any text or journal articles that you are familiar with which would address timing of injury?

A. Offhand, I can't. Not any one article, unless I actually went and did a careful literature search, off the top of my head.

Q. Could you give me the name of any texts or journal article that deals with any of those issues that you have just enumerated for me in this case?

A Not specifically.

I keep thinking back to the Technical Bulletin in '92 by ACOG which describes post asphyxial syndrome, hypoxic ischemic syndrome. That is not directly relevant to this case, but everyone mentions that all the time, so I remember that one, but not specifically, no.

Q. What are your three favorite child neurology texts?

A. As long as we understand that I might have a favorite in that I find it a useful source for comparison in my experience, but I don't understand necessarily have to be the be all and end all.

Q. Did you know in Maryland they changed the rules a little bit?

A. No.

Q. I don't have to get you to say it is authoritative any more.

A. Good.

Q. But I can have one of my experts say it is reliable and I get to use it.

A. Okay.

Q. I am just curious as to what your three favorite child neurology texts are, understanding they are not the end all and be all.

A. Joe Volpe's texts have been mentioned, and he has just put out a new edition. I don't agree with everything he says, but that's one.

Ken Swaiman's. I am biased, because I am a contributor in that, among many, but that's a very encyclopedic and useful source, and that's about it for secondary sources.

There are others, but I choose not to highlight them.

Q. Are you an editor for any journals?

A. I am a reviewer. I have not reached the level of an editor, I don't think, but I review for about six or seven journals.

Q. What journals?

A. Pediatric Neurology, Pediatrics, Epilepsia, Sleep, EEG, and Clinical Neurophysiology, Brain and Development, Neuropediatrics in Europe, and a couple others that I have reviewed.

Q. Do you have any area in child neurology in which you have a particular interest?

A. Yes.

Q. What is that?

A. Neonatal and fetal neurology, based on what I have published.

Q. What about neonatal and fetal neurology, anything more specific?

Epilepsy in the neonate?

A. Well, it wouldn't be the epilepsy, but it would be seizures in the neonate.

Q. Okay.

A. Injury that is acute versus chronic or a combination of the two reflected in the clinical practice I provide at Magee and at Children's.

Q. You are not an expert in obstetrics?

A. No.

Q. You are not an expert in perinatal medicine?

A. Correct, I am not.

Q. You are not an expert in neonatology?

A. No.

Q. You are a child neurologist?

A. Correct.

Q. I take it you are not an expert in life care p1anning?

A. No.

I mean, I could give an opinion based on my practice, but I do not give official economic life care reports.

Q. When was the last time you drafted a life care plan

for a patient?

A. I have never drafted a life care plan. I have been verbally asked how long a child might live, based on my opinion as a neurologist.

Q. Are you from the Herb Grossman school?

A. He has a useful article that everyone quotes, as I seem to think you are aware of, but one has to rely on your own experience, too.

Q. Well, that's nice to hear.

I take it you have never been -- and don't be offended by these questions, because I have to ask them -- I take it you have never been convicted of a crime while you were an adult and while you were represented by an attorney?

A. No, I have not.

Q. Nor pled guilty?

A. No.

Q. I take it that you have never been treated for drug or alcohol abuse?

A. No, I have not.

Q. And I take it you have also never had your privileges or license in any way suspended or restricted or in a revoked condition?

A. No, I have not.

Q. And I take it you have never worked for an expert witness service or had your name listed with one?

A. I worked initially when I reviewed back in the early '80s. I never got listed with them, as far as I was aware, but Sapanarro is the last name in Ohio, and through a neonatologist at Magee, my name was given to him, and he would send me cases, but I asked Jim Sapanarro to stop sending me cases.

Q. Why?

A. It was a year or two of adult neurology cases, and I told him look I am a child neurologist. I think this is inappropriate. It is all plaintiff, and I would rather deal directly with the attorney.

Q. Who was the neonatologist who introduced you?

A. Ross Milli. He is now in Utah.

Q. Do you know Marc Hermansen?

A. Yes, Marcus recently left Pittsburgh.

Q. Right.

A. He was at Allegheny General Hospital, and when my director of neonatology, Mark Guthrie, went to Allegheny General, he left.

Q. Do you know where he went?

A. Kentucky. Hampton Roads, Norfolk, to set up a neonatology program there for a number of hospitals.

Q. Have you worked with Marcus Hermansen in the past?
A. There may have been a case. I do remember one time we spoke, because we were both experts on a case, and I believe it was plaintiff, but I don't remember specifically.
Q. Do you know any of the experts in this case on either side, putting aside Dr. Hermansen?
A. John Freeman.
Q. We told you about Freeman. Do you know him?
A. Yes.
Q. How well do you know him?
A. Over the years, better, although it still is cordial and just professional.
Q. Sure, but I mean, if you ran into him in the airport, would he recognize you?
A. Yes.
Q. Would you recognize him?
A. Yes.
Q. Would you have a beer?
A. We may have a beer, yes.
I was at Hopkins where he was visiting in the lecture hall where I was giving my lectures, so I have recently seen him.
Q. And you have recently read his deposition in this

case?

A. Yes.

Q. How recently?

A. Last weekend.

Q. Is there anything you remember about his testimony that you disagree with?

A. No.

Q. Do you think that if he made a statement in this deposition of some significance that you disagreed with, you would remember, having read the deposition only a week ago?

A. I think there was only one issue that I am not disagreeing with him, but you spent time asking him about hours of life when a seizure was noted.

Q. Right.

A. And I think the notations in the records are limiting in terms of the details, but I am not -- as it is not as important to me to know the exact hours, although I think it is important in general to know when the seizure occurred in the context of other issues, but that's not an area of disagreement with John.

Q. I understand. I guess what I am really hinting at is, if there was something in his deposition of

relative significance that you disagreed with, having read the transcript less than a week ago, do you think you would probably remember?

A. Yeah, if there was nothing of significance that I disagreed with.

Q. Are you going to be addressing any issues beyond which Dr. Freeman addressed?

You both are pediatric or child neurologists. Are there any issues that you are going to address in this case that he didn't address?

A. There are some issues that were not brought up, such as the lung disease problem that Joshua had, as an example.

Q. Okay.

A. So that the answer is yes.

Q. What issues were not covered in Dr. Freeman's deposition that you anticipate covering, other than the hydrops issue?

A. Hydrops, persistent fetal circulation.

Q. Okay.

A. The association of SLE or lupus in the mother, and its effect on the baby.

Q. Okay.

A. The laboratory findings of Joshua, particularly the cellular blood count and how that might reflect chronicity.

The exam findings that Joshua reflected neurologically at birth I think are important to bring out that were not mentioned in his deposition; more specifically, the baby's tone and fisting. And although not of a greater importance, features of -- I think he did mention the loss of fetal movements for several days.

Q. He did?

A. And there are some findings that are because the official reading was normal, but I have not thought about that in the context of other issues.

Q. You are not going to be addressing standard of care?

A. No.

Q. You are going to be addressing causation?

A. Correct.

Q. With regard to that, you are going to be addressing etiology and timing?

A. Correct.

Q. I don't know that there could be anything, but is there anything other than etiology and timing that you are going to be addressing under the umbrella of

causation in this case?

A. No.

Q. Okay. Now moving to damages, are you going to be addressing life expectancy?

A. Yes.

Q. You haven't seen the child?

A. Correct.

Q. And I take it if you were going to be expressing opinions as to the child's current condition and prognosis, you would want to see the child?

A. That would be preferable, yes.

Q. So is it fair for me to assume that with regard to damages in this case, you will be addressing the issue of life expectancy and pretty much nothing else?

A. I would only be able to address generic issues related to what I know from the records on the child's current condition, and I think even without seeing the child I would feel comfortable about how long Joshua would live and what kind of care Joshua will need in general, and I will let the details be handled by those who have not only seen him, but also are more economic planners.

MS. **CLARK:** For your information, Phil, at

trial we are going to ask him questions regarding causation and life expectancy.

MR. FEDERICO: That helps. Then I can dispense with any long term care questions. I will limit my questions to causation and life expectancy.

Thank you.

BY MR. FEDERICO:

Q. Have you discussed this case with anyone other than counsel?

A. No.

Q. And have you ever testified in a case similar to this?

A. Yes. Not specifically the lupus, but to the issue of chronic versus acute, and data that I felt were in the records that supported chronic over acute.

Q. Have you done ***so*** in the last five years?

A. Yes.

Q. Do you have copies of any depositions you have given?

A. No.

Q. Never?

A. Well, whatever cases finished, I certainly don't, because I discard them.

Q. How many cases do you have that are not finished?

A. I don't know. Probably a dozen.
Q. Have you been deposed in any of those cases?
A. I might have, but I don't recall offhand.
Q. Is it your testimony that you are not in possession of any deposition you have ever given in any case?
A. That's right. The only one that I mentioned, Creech. Since that was a video, I know I looked at it recently, and I know the trial is probably over now.
Q. Do you have a copy of the video?
A. No, not the video, because that was not sent to me.
Q. Do you have a copy of the transcript?
A. The transcript I sent back with my corrections.
Q. Did you maintain a copy for yourself?
A. No.
Q. Joshua was born at Holy Cross Hospital, was he not?
A. Yes.
Q. And you are not an obstetrician. His mother suffered with SLE, correct?
A. Correct.
Q. When was the last time that you treated a child or evaluated a child within 48 hours of birth?
A. Yesterday. Evaluated. Not treated, but evaluated.
Q. You wouldn't treat such a child, typically, correct?

A. Other than management of seizure care, and which I still don't write the primary orders, no.

Q. Typically, who treats a child within 48 hours of birth?

A. A neonatologist.

Q. Within what period of time does the neonatologist stop treating the child and you begin treating a child, in general?

A. In general, after discharge from the NICU care, I would essentially be the doctor of record, depending upon the problem.

Q. In this particular case, you probably would not have treated Joshua at Holy Cross Hospital, correct?

A. Correct.

Q. And you probably would not have treated him at Children's Hospital, where he was from September 7th through September 26th, 1988?

A. Correct, except perhaps as a consultant advising the neonatologist.

Q. Now how often are you called in as a consultant on neonatal patients like Joshua?

A. If we are not limiting it to SLE problems.

Q. No, just neonatal patients.

A. On a weekly basis, it can be several times a week.

Q. How many times a month or a year?
A. I would say on a monthly basis, I probably see anywhere from 10 to 30 patients in consultation.
Q. That have not gone home for the first time?
A. That's right.
Q. How many months a year?

Your professional time currently -- let me ask you this -- how much of it is spent clinically?

A. Over 50 percent. I mean, it depends on whether you want to call it a seven-day week or a five-day week, but for my clinical responsibilities, it is at least five out of the seven days when I am not on call and I am seeing patients every day.
Q. Now getting back to Dorothy Barbagallo's SLE, can we agree that people with SLE are prone to placental insufficiency or vascular compromise?
A. In general, that's correct.
Q. And can we agree that, in general, the way the fetus receives its oxygenation is via the mother, by way of the placenta and the vasculature within the placenta?
A. Yes.
Q. And can we agree that many patients are delivered early, many patients with SLE are delivered earlier,

38 weeks plus minus, because of concerns with regard to placental insufficiency or problems with the vasculature of the placenta, secondary to the SLE?

A. That may or may not be true. It is getting into the area of obstetrical issues, and I have seen both full term and preterm, so I would rather let the

Q. There are many causes for decreased fetal movement, are there not?

A. Yes.

Q. Hypoxia is one of them, isn't it?

A. One of many.

Q. Sleep pattern is one?

A. Very good. That's right.

Q. So, some of these causes are benign?

A. Yes.

Q. And some of them are potentially harmful?

A. Correct.

Q. Other than hypoxia and sleep cycle, what are the other more common causes of decreased fetal movement in a term patient?

A. Once again, I think it is out of my purview to comment on it. I don't look at the scores or scales of fetal movements to give an expert opinion.

Q. Fair enough.

A. I would like to add, I might use the information that is interpreted for me by one who does and incorporate that as I have begun using this child's case, but I don't look at the tests that assess movements.

Q. There was some decreased fetal movement reported in this case?

A. Subjectively there was, that's correct.

Q. But you can't say with reasonable medical certainty what the etiology of the decreased fetal movement was?

A. That's correct.

It only hangs into the story because of everything else I feel more comfortable looking at as neurologist.

Q. That decreased fetal movement in this case could have been associated with a sleep pattern; could it not?

A. That's correct.

Q. And you can't say with reasonable medical certainty whether or not it was related to a benign condition or a potentially --

A. That --

MS. CLARK: Object.

THE WITNESS: That piece alone is not helpful. When taken in concert with other information, it is supportive, but not nature.

BY MR. FEDERICO:

Q. Listen to my question very carefully. Can we agree that you cannot say with reasonable medical certainty in this case that the decreased fetal movement was associated with something harmful?

A. I agree.

Q. Okay. Now in the material that you reviewed or the fetal monitoring tracings, I take it that you do not consider yourself an expert in the interpretation of fetal monitoring tracings; is that correct?

A. That's correct.

Q. And you did not review -- you are not basing your opinions in this case on the fetal monitoring tracings?

A. I certainly have to look at what others interpreted. I am not concerned as a neurologist that the particular pattern described is relevant to the cause of injury in this child's brain.

Q. You wouldn't look at the tracing yourself; you would simply look at other people's interpretation of the

tracing?

A. Correct.

Q. And again, like decreased fetal movement, there can be decelerations on a tracing or decreased beat to beat variability on a tracing, which can be associated with benign conditions as well as harmful conditions?

A. I would agree with that as long as you understand harmful does not mean necessarily damaging to baby's brain, and that's a major issue, obviously --

Q. Okay.

A. -- based on my expertise. But to have abnormal heart rate tracings in utero during labor, to my reading as a neurologist, is in general not helpful for predicting brain injury or outcome.

Q. Would you agree about if one is experiencing fetal stress or fetal distress secondary to placental insufficiency that the utilization of Pitocin can make the stress or distress worse?

A. I would rather pass on that, since I am not -- I don't administer Pitocin. I am not an obstetrician or perinatologist.

Q. I am just talking about the effect which it has on the fetus. In other words, if you have a fetus

experiencing placental insufficiency and hypoxia manifesting itself in fetal stress or distress, and you take that patient and you give them Pitocin, which augments contractions, can we agree that that would tend to make the hypoxia worse?

A. I don't agree. I don't think that the studies are clear enough to indicate a link between increased distress, which I agree might happen, and whether that is affecting oxygenation in utero all the time or to an irreversible degree.

Q. Can we agree that, generally speaking, with hypoxic ischemic encephalopathy, if we go back in time, the fetus has what is called fetal reserve? Are you familiar with that term?

A. It is a generalization that I am familiar with.

Q. And at some point in time whatever the stressor is which is causing stress or distress, the fetal reserve gets used up to the point where the ongoing hypoxia, if you will, sort of crosses the line, there is no longer fetal reserve, and permanent damage begins to occur. Do you agree generally with that scenario in a patient who has sustained a hypoxic ischemic brain injury?

A. I will in general agree to that.

However, I do not think we have the tools necessary to quantitate that. It is unfortunately only a generalization, and we do not have fetal surveillance techniques that measure and detect an onset of irreversible injury and its degree and longevity.

Q. I just want to see if I understand physiologically how this works. If we have a baby in utero and there is stress or distress and it is reflective of ongoing hypoxia, can we agree that if the hypoxia is continued to, is permitted to continue, and the child is diagnosed with hypoxic ischemic encephalopathy after the child is born, that at some point in time the child depleted its fetal reserve and began to experience permanent brain injury, secondary to hypoxia?

A. That is hypothetically possible. However, it is probably more likely than not that it is reversible even in the context of encephalopathy.

Q. If we have a patient -- let's just take a patient where it is not reversible, okay?

A. Okay.

Q. Take a patient who has severe cerebral palsy secondary to hypoxic ischemic encephalopathy. Are

you with me so far?

A. Sure.

Q. Can we agree that generally what happens is that there is an onset of hypoxia, the fetus uses up its fetal reserve, and then in the face of ongoing hypoxia, permanent brain injury begins to occur, which eventually manifests itself in a hypoxic ischemic encephalopathy and severe cerebral palsy. Assuming that that is diagnosed after birth --

A. That is still hypothetically a reasonable generalization. The problem I have in saying a simple yes or no is we do not have tools to assess when that injury occurred nor distinguish it from the signs and symptoms that may simply reflect a previous injury that just becomes symptomatic.

Q. For purposes of my question, I am not interested in timing right now. We will get into timing. I am sure we will spend a lot of time on timing in this deposition, since that's the defense to the case. My question does not relate to timing. My question is different. Okay.

I am just trying to understand physiologically the mechanism by which we get to severe cerebral palsy secondary to hypoxic ischemic

encephalopathy, and I think I understand it okay. So putting timing aside, can we agree that with a patient who has cerebral palsy secondary to hypoxic ischemic encephalopathy or birth asphyxia, what happens is that there is ongoing hypoxia, the fetus uses up its fetal reserve to the point where permanent brain injury begins and continues, which gets us to a hypoxic ischemic encephalopathy and severe cerebral palsy?

Is that an accurate understanding of physiologically of what happens under those circumstances, putting timing aside?

A. Hypothetically, that is a reasonable beginning discussion.

The problem is most cerebral palsy is not due to asphyxia. If we take the minority of kids who have an asphyxial process, we have little ways of detecting anti-partum before labor and delivery asphyxia which may be ongoing to decreased reserve as well. I guess I am trying not to be sticky about this, but I agonize over this all the time. Just because a child has findings of distress, such as Joshua had during labor and delivery, is not synonymous with injury, and I think my experience,

as well as what the literature is saying in general, is pushing that point now. It has to be what it hangs with in terms of the child's clinical and laboratory findings.

Q. Really what the literature says, because I read the literature all the time, is that the literature says that just because you have fetal distress doesn't mean you are going to get a bad baby. Do you agree with that?

A. That's a true statement, another generalization, but that's a true statement.

Q. I am going to get back to my question, okay --

A. Okay.

Q. -- and try to get an answer to it, okay?

A. Okay.

Q. A direct answer, and I am not being critical and I understand your reservations, but with all due respect, I don't think I have got an answer yet.

If we take a child who we know, for purposes of the question, has cerebral palsy secondary to hypoxic ischemic encephalopathy or birth asphyxia -- okay, take that as a given. Are you with me so far?

A. Sure.

Q. Can we agree that based on reasonable medical probability, what has happened is there had been a period of hypoxia, which is continued, the fetal reserve has been depleted, and after the fetal reserve has been depleted, the ongoing hypoxia began to cause permanent brain injury, which afterwards manifests itself in severe cerebral palsy secondary to hypoxic ischemic encephalopathy or birth asphyxia?

A. Yes, as long as we don't limit ourselves to anti-partum versus intrapartum, yes.

Q. Now can we agree, Doctor, this child was born on September 6th at what time?

A. 2:00 p.m. or thereabouts, yes.

Q. You are right.

Okay. And a note was written by Dr. Lekagul, I believe at 11:00 a.m. where she says she needs C section ASAP, and then there is a subsequent progress note. I believe it is written by Dr. Chapman, which says right after that: Baby appears to be somewhat stressed in utero and that baby seems to be right on the edge of the oxygen supply and demand curve, and that baby does not seem to be getting enough oxygen to meet its base

requirements at this point in time.

Would you agree with that?

A. Well, I think those are statements that are speculative.

Q. I have to finish reading. I apologize.

A. Okay.

Q. At this point in time -- in time, it does not appear that baby will be able to tolerate any stress including labor.

Now we can agree, can we not, that you are not an obstetrician?

A. Sure, I agree.

Q. And we can agree, can we not, that you don't evaluate patients during the course of labor to determine whether or not the fetus is able to withstand the forces of labor and the oxygen supply associated with the fetus during labor, correct?

A. That's correct. I have only been a passive listener to the discussion as it is going on.

Q. Can we agree that you are not in a position to disagree with this statement by Dr. Chapman as reflected in his progress notes of September 6, 1988, that I have just read?

A. I certainly would not at the time. I would after I

see the child as a neurologist be able to comment on whether those concerns are now consistent with what the child is reflecting after birth, independent of obstetrical care, which I can't give an opinion on.

Q. Do you agree with Dr. Chapman's conclusions as stated in his progress note?

A. I don't disagree with the concerns. From the point of view of worrying about the baby, that's the whole idea of monitoring babies closely during labor and delivery. I am not sure my opinion is relevant. I am not sure I can give you an answer, because I am not an obstetrician on a practicing basis.

Q. Well, he says: Baby appears to be somewhat stressed in utero and that baby seems to be right on the edge of the oxygen supply and demand curve.

A. I will stop you right there. I don't know where that is coming from. We have a cord pH of 7.09. We have no other evidence objectively of what this concern in general is stating in the record.

Q. He is reviewing the fetal monitor and tracing?

A. But the fetal monitor and tracing doesn't look at oxygen acid based pH or oxygenation capabilities. He is looking at the baby's hearbeat relative to contractions and relative to descent down the birt

canal. That's different.

Q. I understand that's different. But from an obstetrician's prospective, he states that the baby appears to be somewhat stressed in utero and that baby seems to be right on the edge of the oxygen supply and demand curve, and that baby does not seem to be getting enough oxygen to complete its base requirements at this point in time. It does not appear that baby would be able to tolerate any stress, including labor.

Now, do you agree with his statement or do you disagree with it?

A. Portions I disagree with -- the ones related to on the edge of oxygen reserve, all of the things referable to issues that he has no measurement to quantify.

Q. Baby appears to be somewhat stressed in utero?

A. That's fine. Based on the heart rate monitoring, that's their expertise to consider.

Q. And certainly it is their expertise to determine whether the baby prospectively is on the edge of the oxygen supply demand curve, because the whole idea is to deliver the child before the child goes over the edge, if you will?

MS. CLARK: Objection.

BY MR. FEDERICO:

Q. Is that fair? I mean, that's what they are trying to do.

A. I think over the edge is the problem. I think the issue is, what are the accuracy of our fetal surveillance techniques? And they are very limited in terms of the issue you are asking me to think about, which is if you are going to decide that there is a precipice, a cliff between the dividing line between reversible and irreversible based on oxygenation, there is no measure as to what this kid's current level was at the time this note was written let, alone the edge.

Q. Well, there certainly is. I don't know if you can put your finger on it or anybody can put their finger on the exact minute when a kid crosses the line, but if we have a child who has severe cerebral palsy, which is secondary -- first of all, you can have severe cerebral palsy which is secondary to hypoxic ischemic encephalopathy or birth asphyxia, can't you?

A. I don't use the term birth asphyxia, but, yes, from asphyxia you can have cerebral palsy. It is a

minority of kids.

Q. But we can have cerebral palsy secondary to encephalopathy or asphyxia?

A. Any duration of any onset, that's correct.

Q. Now in those kids, at some point in time they cross the edge of the oxygen supply and demand curve, and that's when the permanent damage begins to occur, correct?

A. Hypothetically, that's correct.

Q. Okay. Now with regards to this note, progress note written I believe it is by Dr. Chapman, he says that the baby seemed to be right on the edge of the oxygen supply and demand curve.

Do you agree or disagree with that?

A. I disagree with that phrase, as I mentioned to you earlier.

Q. Now he certainly felt that the baby was right on the edge of the oxygen supply and demand curve, correct?

MS. CLARK: Objection. The record speaks for itself.

THE WITNESS: I think I can only assume what he wrote in the chart, so, obviously, I have to assume he believes that, since he wrote it.

BY MR. FEDERICO:

Q. And he wrote that based on his treatment of the mother, his interpretation of the fetal monitoring tracing, his evaluation of the patient, correct?

MS. CLARK: Objection.

THE WITNESS: Correct.

BY MR. FEDERICO:

Q. You weren't there to do that, correct?

A. No, I was not.

Q. And the goal of not just him as an obstetrician, but every obstetrician is that if they have a patient who is in labor and they believe that they are approaching the edge of the oxygen supply demand curve, the goal, generally speaking, for any obstetrician would be to deliver the baby before they go over the edge, true?

MS. CLARK: Objection. He is not here to testify on the standard of care.

MR. FEDERICO: And I accept that. I am not asking him about standards of care.

I am asking him about, as a pediatric neurologist, his familiarity with kids like that there.

BY MR. FEDERICO:

Q. The goal is -- if you are called in to consult or if

you are looking at it afterwards, the goal is, if you have a patient in labor and you think the patient is on the edge or the oxygen supply demand curve -- I mean it is pretty rhetorical or it is a self fulfilling prophecy to a certain extent -- but the goal is, if you believe that you are on the edge of the curve, you want to deliver the child before you go over the edge?

MS. CLARK: Objection.

THE WITNESS: Belief is one thing. Facts are another.

I believe this kid was over the edge already, and we haven't gotten to it, but I think this child occurred injury before labor and delivery even started, and I don't particularly think that Dr. Chapman's comment changed my opinion one iota.

I think the child certainly is reacting in a suboptimal way to the birth process by a heart tracing abnormality, but that in no way is synonymous to oxygenation status.

BY MR. FEDERICO:

Q. Can we agree that the longer a child suffers with hypoxia or asphyxia, the more likely it is that the child will sustain permanent brain injury?

A. Yes.

Q. Now Dr. Chapman, first of all, you wouldn't be in a position as a pediatric neurologist to tell us whether or not a baby is getting enough oxygen during labor or in utero?

A. Correct.

Q. That would be something the obstetrician would do based on his evaluation of the mother and the fetus, correct?

A. It hadn't been done in the Barbagallo mom or the baby, but, potentially, they could do a scan to look at oxygenation, a cordocentesis to measure blood through the umbilical cord. Potentially, those things could give you oxygen or acid based status, and I couldn't do that.

Q. Right.

A. But that wasn't done here.

Q. I understand that, but obstetricians do look at fetal monitoring tracings to determine fetal well-being, do they not?

A. Sure.

Q. And one of the things that can adversely affect fetal well-being is ongoing hypoxia, correct?

A. Sure.

Q. And fetal monitoring tracings can be used to determine to a certain extent, based on other clinical factors, the potential presence or absence of hypoxia and its severity?

A. That's one of many possibilities, but without having concurrent measures of acid base and oxygenation capability or levels, that is speculation. That's probably the essential problem with what fetal heart tracings do and don't tell you.

Q. Dr. Chapman said that the baby does not seem to be getting enough oxygen to meet its base requirements at this point in time. Now, I take it you disagree with that?

A. Correct.

Q. Now he also goes on to say that it does not appear that the baby will be able to tolerate any stress, including labor.

Can we agree that since you are not an obstetrician, you would not be able to agree or disagree with that?

A. Correct.

I guess that's an opinion he holds, a belief he holds, and since I don't practice obstetrics, I won't comment further.

Q. Dr. Lekagul at eleven a.m. wanted to do a C-section ASAP. Can we agree that that's because Dr. Lekagul most likely was concerned with fetal well-being?

MS. CLARK: Objection.

BY MR. FEDERICO:

Q. Based on your review of the records?

A. 1 would assume so, but talking as a neurologist, not as an obstetrician.

Q. And Dr. Chapman concurs in the note that. He writes right after that.

Can we agree that Dr. Chapman, he says: Wanted to do in the interest of the baby. It would be prudent to do a C-section ASAP.

Can we agree that, given Dr. Chapman's note -- and we have read most of it now -- that he wanted to do a C-section ASAP or not, it would be prudent to do a C-section ASAP because of his concerns about fetal well-being specifically related to oxygen supply?

MS. CLARK: Objection. The records speaks for itself.

THE WITNESS: Yeah. As he speaks for himself in the record, I think that is all I need to concede. If he wrote that down and if he testifies

to that -- that is clearly in his handwriting, but I disagree with the statements regarding oxygenation, as I have mentioned.

BY MR. FEDERICO:

Q. Now can we agree that there was meconium in this case?

A. Yes.

Q. Can we agree that meconium is consistent with hypoxia or asphyxia?

A. No, it can be from distress. It may be in the subheading under distress asphyxia.

Q. Let me clean this up then. Can we agree that meconium is consistent with fetal distress secondary to hypoxia or asphyxia?

A. That is one form. That's one reason for meconium passage into the amniotic fluid.

Q. Now in this particular case, Doctor, do you have an opinion based on reasonable medical certainty as to the etiology or cause, if you will, of the presence of meconium?

A. No, I don't to a reasonable probability, based on your earlier questions. It is due to distress. Whether it is due to a specific category of distress, such as asphyxia, I don't know, because we

don't have enough monitoring. It may have been from the general lupus condition or the vasculopathy you talked about that is associated with that without asphyxia.

Q. Just *so* the record **is** clear, can we agree that based upon reasonable medical probability, the meconium here is due to fetal distress of some kind?

A. Correct.

Q. Can we agree that you cannot say with reasonable medical certainty what the etiology of the fetal distress was which caused the meconium passage?

A. Well, the etiology is not to a reasonable medical certainty.

Q. **Now** there was a decreased heart rate, fetal heart rate variability, and variable decelerations and abnormal fetal monitoring tracing. Can we agree, based on reasonable medical probability, that that was as a result **of** fetal distress?

A. Yes.

Q. And can we agree that you do not have an opinion based on reasonable medical certainty as to the cause of fetal distress?

A. Correct.

Q. **Now** there were calcifications grossly noted on the

placenta, correct?

A. If I remember correctly, on the pathology report they said patchy calcifications.

Q. And on the labor and delivery summary, under "placenta," it says "calcifications." Can we agree, Doctor, that calcifications in the setting of **SLE** placental dysfunction?

A. Potentially, that's correct. It is a marker. It doesn't actually get to the physiology of how the placenta is functioning in utero.

Q. If you have a patient who has **SLE**, if you have a patient who has placental calcifications and placental insufficiency, can we agree that that would increase the likelihood of fetal distress secondary to hypoxia?

A. Yes.

Q. Okay.

A. **As** long as we are limiting it -- not limiting it to any time interval, because it could have been before labor and delivery.

Q. One who is experiencing fetal -- excuse me. One who is experiencing placental insufficiency in the setting of **SLE** is more likely to experience hypoxia

during labor as a result of the forces of labor than they are prior to labor?

A. I would agree that is more of a fear or concern by a physician rather than whether it has been proven in all cases, but I think that's a general concern.

Q. Let me ask you this. I think I understand how this labor process works. Either the mother has contractions on her own or she is induced and you cause her to have contractions, which causes the uterus, which is a muscle, to press down on the baby, and, thereby, push the baby towards the birth canal.

Is that pretty good for a layman?

A. Sure.

Q. Now when you go through labor or they go through labor, not us.

A. We all did at one point.

Q. That's true. When labor is occurring, can we agree that the forces of labor, the contractions cause a temporary decrease in profusion to the fetus, generally speaking?

A. Oh, if I say yes to that, which I think is a generalization as a nice discussion starting point, that's a slippery slope, because I am not sure we

have measurements for that.

Yes, there are probably, in general blood flow, alterations that occur to different organs as the baby is descending through the birth canal with contractions.

Q. And since the baby gets its oxygen through that blood flow, there can be some degree of change in the oxygenation of the fetus during labor?

A. Yes.

Q. And generally speaking, if we have a mother who has SLE who is experiencing placental insufficiency, can we agree that she is more likely to experience hypoxia during labor than she is before labor, because of the forces of labor?

A. Hypothetically, that is possible.

Q. And if she has experienced some hypoxia before labor, can we agree that she is more likely to experience more severe hypoxia during labor again, because of the forces of labor?

A. It is speculative, but that's hypothetically possible.

Q. Okay. There was a cord pH in this case of 7.09, correct?

A. Correct. I mentioned that earlier, yes.

Q. Do you know where the blood came from?

A. No, I don't think it was recorded specifically where it came from, Venous versus arterial, I guess you are asking.

Q. Yes. Does it make a difference?

A. Yes.

I still think the child was probably acidotic, but I think you would be more tolerant of a lower pH if venous versus arterial, but I don't know where it came from.

Q. In any event, can we agree that this child at birth was acidotic?

A. Yes.

Q. Can we agree that at birth this child was hypoxic?

A. We have to assume that. That's speculation.

There was no -- I don't recall as part of the cord pH that there was an oxygen determination. I am not recalling it, and it wasn't the hypoxic

Q.

present, that tends to suggest a more acute injury than if we have thin meconium, because heavy meconium means more recent passage, thin meconium means that has had an opportunity to dilute over

time?

A. I agree generally with that description, as long as you understand that we now look more critically at other tissues that are stained with meconium and know its limitations and its importance for etiology of stress. Having it around in fresh versus being thin and darker green are general descriptions that I have heard many times.

Q. If now the wonderful people at Holy Cross Hospital in discharging Joshua Barbagallo listed a principal diagnosis of perinatal asphyxia, you certainly wouldn't disagree with that, would you?

A. I don't disagree, as long as we both understand the definition of "perinatal."

Q. What is --

A. I don't think it is very helpful, because perinatal is a very broad time line, starting with the first trimester, ending with the first 28 days of a full term birth.

Q. What is your definition of perinatal asphyxia?

A. Asphyxia occurred during that time interval. Some hypoxic ischemic distress occurred during a very long period of time, as defined by perinatologists.

Q. Can we agree that Joshua Barbagallo has severe

cerebral palsy; is that correct?

A. Sure.

Q. Can we agree that the severe cerebral palsy more likely than not is due to asphyxia at some point in time?

A. I think *so.* I think that is speculative.

I don't have objective evidence to argue from the anti-partum, which is what I am arguing with. It is probably asphyxia.

Q. And the rub, if you will, between you and I in this case is, when did that asphyxia occur?

A. Yes, I think ultimately that's what it is.

Q. Now the child had persistent -- was diagnosed by the people at Holy Cross with persistent pulmonary hypertension?

A. Yes.

Q. Can we agree that more likely than not, that was due to asphyxia?

A. Yes.

Q. The child was diagnosed with meconium aspiration. Can we agree that that more likely than not was related to asphyxia?

A. I think so, yes.

Q. The child was diagnosed with suspected seizures as

opposed to seizures. Can we agree that the suspected seizures more likely than not were due to asphyxia?

A. Yes.

Q. Now they have down here, suspected sepsis. Can we agree that sepsis -- this child was worked up for sepsis, and sepsis was ruled out?

A. Bacterial causes primarily were ruled out, but I agree that is not a leading diagnosis.

Q. Now this child had hypoglycemia. Can we agree that that more likely than not is due to asphyxia?

A. Asphyxia is one component, yes.

Q. This child was diagnosed with acidosis. Can we agree that the acidosis more likely than not was due to asphyxia?

A. Yes.

Q. Thrombocytopenia, correct, diagnosed?

A. Yes.

Q. Can we agree that the thrombocytopenia was more likely than not related to asphyxia?

A. That's one of several components that's possible, yes.

Q. The oliguria, decreased urine output, can we agree that that more likely than not was due to asphyxia?

A. Yes.

Q. Obstetricians can and have from an obstetrical standpoint timed the onset of a hypoxic or asphyxic brain injury based on the evaluation of the fetus. I am sure you have read depositions. You have probably read them in this case, and I am sure you are familiar with that just in general, correct?

A. Well, I have seen obstetricians do it, yes.

Q. Okay.

A. How relevant the data is by which they make that conclusion I question, but yes, it is done.

Q. Well, certainly they look at the timing, if you will, of the hypoxic ischemic encephalopathy from their eyes as an obstetrician, which is different than your eyes as a pediatric neurologist, correct?

A. Well, it may be different, yeah, but it also may be complimentary rather than disagree.

I think you are leading to a question of disagreements.

Q. No, I am not.

A. Okay.

Q. I guess what I am really getting at is, as a pediatric neurologist, you and really every pediatric neurologist looks at the onset of

permanent brain injury in the setting of hypoxia or asphyxia from a different setting than obstetricians, because of your training and from your expertise?

A. And you have missed probably the most important. I think the Monday morning quarterback who has more to examine than the obstetrician has to examine.

Q. But the obstetrician does have things to examine, which, with all due respect to you, you are not competent to examine, because it is outside your field?

A. That is true, but I also have learned from the obstetricians I have worked with and the articles I read that fetal testing has severe limitation to assessing well-being of the fetus, particularly during the anti-partum period, and that's not a knock to their testing. It is just the nature of the art of medicine for them at this point in time.

Q. Is it your opinion that the neonatologist or pediatric neurologist is in a better position to tell us when the onset of hypoxic ischemic encephalopathy occur?

A. Yes, I think that there is more available for clinical assessment and laboratory assessment.

Q. Now what, generally speaking, are the criteria which go into your general evaluation of a case for purposes of timing a hypoxic ischemic encephalopathy?

A. Okay.

Q. Before I ask you that, let me just see, can we agree that Joshua Barbagallo has hypoxic ischemic encephalopathy, more likely than not?

A. As long as we don't argue that it reflects an acute problem, yes, I am willing to accept that. I think the child had a transient acute depression during the immediate labor and delivery period, but I do not agree that this is a classical profile of a hypoxic ischemic post asphyxial brain disorder.

Q. Well, I am not concerned with timing for purposes of this question and we are -- believe me, if your opinion was anything other on the timing issue other than what I know it is, you wouldn't be here and I wouldn't be here today, so I know your opinion is that the timing happened before she got to the hospital on the 6th.

A. That's correct.

Q. We are going to explore that. I knew that before I came here.

A. Okay.

Q. I have done this before once or twice, but my question is, can we agree, putting the issue of timing aside, that Joshua Barbagallo has severe cerebral palsy, which is more likely than not due to hypoxic ischemic encephalopathy?

A. Yes.

Q. Getting to timing in general, the question that I was at before, what are the factors, generally speaking, that you take into consideration regarding dating, if you will, a hypoxic ischemic encephalopathy?

A. On exam, it would be the tone of the child, muscle tone, as reflecting in brain control over muscle tone. Level of arousal, seizures presence or absence, as well as timing, profile over the first week of life, first several days particularly. Reaction of other nonbrain organs, such as heart, liver, kidneys that give me a suggestion of timing.

Laboratory data that also reflect other organs response to stress, such as asphyxia, imaging findings, if relevant, that might have a bearing on timing issues, depending on the imaging that was obtained.

Pathologic diagnosis from the placenta, obstetrical information, such as the ones we have discussed that have to do with movements of the fetus or findings during labor and delivery with respect to fetal heart rate monitoring. Follow-up information that assessed the child's medical condition at the present time that may shed light on stress at the time of fetal life or at birth.

Q. Okay.

A. That's pretty broad, but that covers it.

Q. It is pretty good. Now what about tone would suggest that the injury is acute in nature?

A. For Joshua?

Q. Just in general.

A. Oh, in general, it would be easiest for me, as in Joshua's case, but generically it would be increased tone at birth, and I don't mean every single exam. But if the overall profile of nurses and doctors are that the fists were tight and the tone was increased, this is a chronic finding.

Q. A chronic finding?

A. A finding that suggests long standing stress to the central nervous system.

This is just common knowledge that

neurologists think about all the time when they see a tight child.

Q. Can you have a child who has experienced a hypoxic ischemic encephalopathy where they have gone over the edge, if you will, within three hours of delivery?

A. Okay.

Q. And have them be hypertonic within the first 24 hours of life?

A. If it is a mild asphyxia. If it turns out to be of no consequence for the risk for cerebral palsy, there is a state of post asphyxial brain disorder that has been described by Harvey Sarnan, initially, where it is a hyper, alert, hypertonic, jittery baby. Always a concern when I see this sort of problem is that, is it a mild acute problem or a mere severe chronic problem?

So your question is respected, but that's my response.

Q. I understand. Can you have a baby who goes over the edge within three hours of delivery which who subsequently manifest severe cerebral palsy secondary to hypoxic ischemic encephalopathy, where within the first 24 hours of life they appear to be

somewhat hypertonic?

A. No.

Q. It is impossible?

A. It is not, in my experience.

Q. What is your understanding of Joshua Barbagallo's -- first of all, the time frame for tone, what are you concerned about? Are you concerned about the first 24 hours?

A. That's a good question. First you have to look at the immediate delivery period.

The child is obviously being resuscitated. Joshua had an Apgar of only 2.

You have to look at the resuscitative period to see how to respond, and he did respond to resuscitation, but the tone may be a less reliable notation after notation. The note mentioned increased tone probably the first hour on. The child got Phenobarbital, which makes for changes of tone. Once you got out of that first hour, if you still had increased tone, predominantly that is important for me to suggest chronicity.

Q. When you say increased tone, there are certainly varying degrees of increased tone. I mean, you can have a fist so tight you couldn't wedge a penny out

of it and you can have a hand that is in the shape of a fist, which --

A. Uh-huh.

Q. -- would indicate increased tone, but wouldn't be nearly as severe, correct?

A. That's right.

Q. So increased tone can be -- generally speaking, you can have hypotonic?

A. Decreased.

Q. Decreased tone. You can have, I guess, what is normal, and then in terms of hypertonic, you can probably have mild, moderate or severe. Is that fair?

A. Oh, sure. We do that all the time.

Q. I would think. And in this case, Doctor, you can't tell me with reasonable medical certainty whether or not the child at delivery was mildly hypertonic or the degree of increased tone at any time after delivery?

A. Not immediately after delivery. You have to define what you mean by immediate, but I do believe that I could operate, based on the review of the records, that this was severe hypertonia.

Q. That's your opinion?

A. Yes.
Q. Okay.
A. On two descriptive points by multiple people.

One is the cortical fisting. That tells me they couldn't break this closed fist. That is very abnormal.

And the second finding was the PMR, the physical medicine rehabilitative consultation at about five or six days of age. Contractures from the limbs. You don't get that from something acute. That is something chronic. Useful information that doesn't always come out of the record, but from this particular child, that came out. Grading is difficult. I would agree with that in general.

Q. You wouldn't base your opinion with regard to timing in this case on tone alone, would you?
A. No, but as a neurologist who exams babies, that's real high up there.
Q. And there are entries in the chart which suggest that the child just is not experiencing increased tone during the first five days of life, correct?
A. There are several entries, and there are not many of actually hypertonia, if that's what you are referring to.

Q. Right.
A. There are very few entries of that compared to others that are increased tone. If you look at entries of nurses and doctors, not all of them consistently describe tone every time they write a note.
Q. And when they do write a note and describe tone, those entries aren't consistent?
A. I think they are. I think the consistency is predominantly in the increased tone arena of cortical fisting and increased tone, rather than the decrease.

Once again, this child has gotten medication, and also cycles through sleep or state, which is going to change tone, too, so it depends on the time in which different examiners see the kid.
Q. Can we agree that the records are somewhat inconsistent with regard to this child's tone during the first five days of life?
A. Explain consistent, but it may be a reflection of the process I have mentioned of either normal state cycling or a pharmacologically altered baby on the drugs.
Q. At birth was there a description of the child's

tone?

A. I don't know what you mean by at birth. There was mention of increased tone, fisting early on, and I would have to look at -- it was a nursing entry, too.

Q. Do you remember when it was that the tone was first described at or after birth?

A. Offhand, I don't. I would have to look at the records.

Q. Do you remember whether it was described -- wen it was described for the first time, do you remember what the description was?

A. It was called fisting. It was by a nurse's notes, and it was prior to transport.

Q. Now the second thing you told me about in terms of timing after tone was level --

A. Of arousal, I think.

Q. I got the "A."

A. Well, that's important.

I mean we can't assess mental status real accurately in the newborn. I will admit that up front, but what we are looking for in terms of the potential of timing is how unconscious is the child.

And I am impressed with paradoxically how

awake -- I won't say alert -- Joshua was after several hours. This is not a child who has had such a severe acute metabolic disturbance from asphyxia where he was comatose, unresponsive and needing a ventilator.

I am throwing in the ventilator, because that is part of level of arousal. If you can't breathe on your own, you are really deep in coma, and Joshua just did not reflect that.

Q. Joshua had an Apgar of 2, correct?

A. At one minute he did, yes.

Q. That Apgar of 2 is consistent with an acute asphyxic event, is it not?

A. Yes.

I mean in the context of Joshua, he had a cord pH of 7.09. He was acidotic. There is no question about the metabolic arrangements. Whether that is relevant to injury is obviously why I am sitting here.

Q. There is no question that Joshua at birth was asphyxic and had an Apgar of 2, which is consistent with an acute asphyxic event, right?

A. Yes.

Q. With regard to his Apgar score, Apgars are something

you don't ignore in terms of timing, correct?

They are important?

A. In terms of brain injury, they are misleading, but as John pointed out in his deposition, and others as well, when you get beyond ten minutes and the Apgar is depressed, then the Apgar takes on more than -- more of a prognostic indicator, but not for timing.

Q. With regard to the Apgars, they evaluate tone?

A. Uh-huh.

Q. What do they evaluate?

A. Heart rate and respiration first. Those are the most important two.

Q. Right.

A. Then there is muscle tone, grimace or cry, and color.

And muscle tone probably, in my mind, is the next important, and then there is probably cry, and then color, but that's kind of arbitrary.

Virginia Apgar designed this with no grading of which was more important than the other, and they are irrelevant for preemies, but it is clearly a measure of the need for resuscitation, and that's all.

Q. It is a modality by which one can evaluate the

condition of the child at birth, correct?
A. Correct.
Q. And you can evaluate the degree of depression at birth, correct?
A. Correct.
Q. And you can evaluate if the child is experiencing depression secondary to hypoxia or asphyxia, the degree of that at birth?
A. In concert with what you know metabolic about the child, that's correct.
Q. And we know metabolically that this child was acidotic secondary most likely to asphyxia?
A. Initial core pH was acidotic yes. And if we talk to Apgars, we have got to go to the five-minute Apgar, which I guess you will get to.
Q. We will. Now can you find for me where the Apgar scores were broken down? I have got them.
A. Okay.
Q. Now you indicated previously that respirations at birth were indicative of the level of arousal, correct?
A. Yes.
Q. Being able to breathe on your own?
A. Yes.

Q. If I understand, the inability to be able to breathe on your own at birth would indicate a more acute injury, and the ability to be able to breathe on your own at birth would indicate a more chronic injury, generally speaking?

A. Not injury. I guess you used the proper term for me, depression. I think the depression of respiration is a more acute finding of level of arousal.

Q. Right.

A. I don't make that equivalent to injury.

Q. Maybe I misspoke. I will ask it to you this way: Can we agree that level of respiration, which is associated in your mind with arousal, if you have no respirations at birth or an inability to be able to breathe on your own, that is consistent with acute asphyxia, and the ability to be able to breathe at birth, which would be consistent with increased arousal, would be associated with a more chronic asphyxia?

A. Or reversible asphyxia. I mean, maybe not even brain damage.

I mean, after birth is the issue. How far after birth? I have already conceded that that

transitional period of the first hour is a pretty tumultuous time, and Joshua was having a lot of problems. I am not denying that, but the trends of where he was going -- Joshua was breathing on his own and was extubated before the PPHN, the lung disease came over.

Q. I am looking at Joshua's condition of birth for the moment.

A. Okay.

Q. We will get to it down the road, because I am talking about Apgars.

A. All right.

Q. When you have a child who has no respirations at birth, that is consistent with a decrease or impaired level of arousal which is consistent with an acute asphyxia or hypoxia, correct?

A. That's correct. Not synonymous with brain injury. I have seen many kids, more kids than not, who have reversible asphyxial depression, post asphyxial depression, which then wake up and are fine.

Q. Joshua Barbagallo's asphyxia, whatever the curve --

A. Yes.

Q. -- obviously, it was not reversible, correct?

A. Yeah.

I think we are speculating on the asphyxia, as I have admitted to you. I think it is anti-partum. I don't have a measurement of that, but 1 know, in general, the lupus condition can lead to vasculopathy, which leads to asphyxia.

Q. Joshua Barbagallo's asphyxia got to the point where it wasn't reversible; isn't that a correct statement?

A. Yes.

Q. Now let's talk about seizures and their timing. Can we agree that seizures which occur within the first 12 to 48 hours are consistent with or suggestive of an acute asphyxic event?

A. As long as we leave out injury, yes. As long as we leave out injury.

However, I have a provisio based on my own experience, which is now published, that most full term babies will seize -- 90 percent will cease within the first two days, irrespective of timing. I don't know whether we are dealing with the lowering of thresholds from a previous injury which led to seizures or the seizures are a reflection of an acute brain injury, which I reject.

Q. Let me ask you this: What is your opinion, in general, regarding how seizures relate to a child who has experienced hypoxic ischemic brain injury?

A. In general, the presence of seizures suggest a more severe depression or brain disorder.

Q. Okay.

A. It potentially can be from either acute or chronic injury or no injury at all.

Q. Okay.

A. And the earlier the seizures in general -- and I know you and John fenced about this -- the more potential it may hang true with a chronic versus acute problem, and I don't have the hours that I can say to you. At this point in my practice, to a reasonable degree of medical certainty, I think the earlier it is, the more likely chronic.

Q. Let's try to get some hours, in general, to the extent that we can.

Can we agree -- I think I understand what you are saying -- the closer it is that you have diagnosable seizure to the time of birth, the more likely it is that it is a chronic asphyxia?

Is that fair --

A. Yes.

Q. -- generally speaking?
A. Keeping in mind how long labor and delivery was. I mean, in looking at all of the other factors, yes.
Q. And then would it also be fair to assume that if you don't have diagnosable seizures within the first so many hours -- and I will let you put a number on that if you can --
A. Uh-huh.
Q. -- that that is more consistent with an acute asphyxic event?
A. I --
Q. Let me ask it to you this way.
A. Just I have seen so many of both sides of the street that I am becoming less and less confident.
Q. Does timing of seizures help you time the asphyxic event?
A. Not alone, but in general with other things, it can be helpful.
Q. How so?
A. A child seizing in the delivery room. That helps, in the absence of anything acute like a bleed that I think is happening at that time.
Q. Let me stop you, and I apologize, but maybe I can save some time here. Let me ask this question: If

you had an acute asphyxia which resulted in hypoxic ischemic encephalopathy and severe cerebral palsy --

A. Yeah.

Q. -- have you ever seen that?

A. Yeah, sure.

Q. It happens, doesn't it?

A. It does. Less common than you would think from what you said, but it does happen.

Q. Okay. From the standpoint -- given that scenario --

A. Right.

Q. -- from the standpoint of the timing of seizures, what would you expect?

A. Later seizures, as you phrased earlier, and I would expect to see --

Q. What do you mean by later, generally?

A. Generally, you know. You have read it as well as I have. If you look at kids with asphyxia, you will see them during the first two to three days clinically. Are they truly seizures, and did you verify them electrically? But during that first few days that is published, if it is acute it would be later than earlier, and I tend to see that first 12 to 24 hours being less likely to see them than in 24 to 48 hours. That's my general impression.

I am studying that now and I have no statistics published, but my general feeling is it is later than. That's --

Q. Can we agree that your opinion is -- I am going to jump back in time for a minute.

A. Okay.

Q. Can we agree, Doctor, that in this case, your opinion is that this child's tone after birth and after birth is consistent with a more chronic asphyxic event?

A. Correct.

Q. Why is that?

A. Increased tone, as we pointed out, and the contractors.

Q. Now with regard to this child's level of arousal --

A. Yes.

Q. -- is it your opinion that this child's level of arousal is consistent with a more chronic injury or is it not very helpful one way or the other?

A. It is less helpful, because of the disease entity of PPHN that developed in the lung and the drugs on board, but I felt that this child during the first couple of hours was arousing and becoming more awake paradoxically faster than I would have expected from

an acute severe hit from asphyxia.

Q. Can you say with reasonable medical certainty that this child did not have -- that this child's level of arousal was inconsistent with an acute asphyxic event?

A. It was inconsistent. Looking over the serial exams of multiple people, I would say yes. To a reasonable degree of medical probability, yes.

Q. To a reasonable degree of medical probability, could this child's level of arousal at birth and thereafter be consistent with an acute asphyxic event, given the fact that the child got --

A. Alone.

Q. -- got zero for respirations at birth?

A. How far are we going? Are we limited to zero at birth and two at one minute?

Q. No.

A. I would say it was inconsistent the way an acute asphyxial event.

Q. Certainly the child's level of arousal at birth and within the first minute was consistent with an acute?

A. I will even give you the first hour. I think there is a transition period from fetal to neonatal life

that Joshua did not negotiate real well, and I think the level of arousal was evolving. If I was sitting there looking at the baby, I wouldn't know where we are going yet.

Q. So the child's condition, generally speaking, general overall condition within the first hour of life would be consistent with an acute asphyxic event?

A. At that time, I would probably say that is a potential possibility.

Q. Now let's go back to seizures. Can we agree that once the seizures were eventually diagnosed, in this case that the timing of the seizures or the onset of seizures in this case were consistent with an acute asphyxic event?

A. No.

Q. Why not?

A. Because they were too early, and in the context of other things on exam, such as the tone and the arousal and the other laboratory findings. So the seizures alone helped me only in the context of everything else I am putting together.

Q. I understand. Let's see how much these seizures help you. Why don't we play the game and play with

Dr. Freeman to see if you had more luck than he did. Hopefully, you will.

Can you find for me documentation in this child's chart prior to transfer?

First of all the child was born at 2:00 p.m. on the 6th and transferred that day to Holy -- I guess transferred on the 7th to Holy Cross, correct?

MS. CLARK: Transferred to Children's Hospital on the 7th.

BY MR. FEDERICO:

Q. Thank you. Do you know what time of the transfer was?

A. I don't remember offhand.

MS. CLARK: I don't remember offhand.

BY MR. FEDERICO:

Q. Well, let me see if we can find out. It looks like on the 7th, according to the Children's record. It says admission time 1:30, so let's assume that Joshua was at Holy Cross for 24 hours plus minus.

A. Right.

Q. Can you find in the Holy Cross record when it was that Joshua first experienced a diagnosable documented seizure? At what point in time after

birth?

A. Let me look through it and see if I can find some notation here that helps.

MR. FEDERICO: We will take a quick break.

- - - -

(Whereupon, there was a recess in the proceedings.)

- - - -

BY MR. FEDERICO:

Q. The first diagnosis of seizures in this child, based on the records you have reviewed, is when?

A. About 11:30 p.m. on the 6th is the earliest notation. I see nothing mentioned earlier than that.

Q. That would be at how many hours of life?

A. Well, approximately nine.

Q. What specifically is recorded at that point in time?

A. I will get that out here. I have a notation dated 9-6, 11:50 p.m. hospital, and it says:

(Reading) Awake, eyes open, with movements of extremities, chewing motions *of* the mouth, thumbs positioned under fingers, and that's really all.

But by that time the child is **on**

Phenobarbital, so I don't know exactly when before that movements in question were considered possible seizures and the child treated, so the maximum was nine hours.

Q. Let me ask you this: Under these circumstances with

would not be uncommon nor would it be inappropriate to put the child on prophylactic Phenobarbital?

A. Now I guess we wouldn't do that.

Q. In 1988?

A. Unfortunately, they did it then.

Q. They did it?

A. Right.

Q. And in this case, essentially what we are looking at, you can't nor would you in 1988 make the assumption that this child had seizures before they put this child on Phenobarbital?

They may have very well put this child on Phenobarbital as a precautionary measure, correct?

A. Well, it is possible, but it is not implied by the records, which indicate that they put the kid on meds because of seizures. Everyone who made the mention that seizures were mentioned and documented and Phenobarbital started, I have seen those type of

injuries, and that was not in this particular child's injury.

Q. There is no mention of seizure in this chart prior to 11:50 p.m., correct?

A. As far as I can see, that's correct.

Q. And the activity that is mentioned at 11:50 p.m. is not a diagnosis of seizure, correct?

A. Certainly the writer, who was a nurse, did not even document them and say, I think these are seizures. They simply describe what seem to be a seizure in a child already on anti-epileptic medication.

Q. What she is observing may or may not be seizures, correct?

A. True, but the child was already on Phenobarbital, and even in 1988, I would say that it was not general practice to prophylactically put children on Phenobarbital, just in my understanding of the diagnosis of even clinical seizures, because I think doctors are concerned about Phenobarbital's level of arousal.

Q. But in this chart, we can agree prior to 11:50 p.m. on the 6th, nobody diagnosed, as best you can tell, the presence of seizures?

A. Correct.

Q. And at 11:50, there is no diagnosis of seizures?
A. Correct.
Q. And can we agree that -- prior to transfer can we agree that there is no place in the Holy Cross record for Joshua Barbagallo where somebody actually observes and diagnoses seizure?
A. There are mentioned on the 7th of seizures, if I remember, but --
Q. Okay.
A. I am not sure I -- I am not sure. I have to disagree with you, because I don't think.
Q. There may have been some mention of seizure activity on the 7th?
A. Yes.
Q. Let me ask you: The evaluation of this child that was done -- first of all, can we agree that a neonatologist, generally speaking, is in a better position than a pediatric neurologist to rule in or rule out the presence of birth asphyxia?
A. That's a tough one. We are both pediatricians. We both can look at clinical exam findings and laboratory findings. I would say we are both synonymous in our abilities for diagnosis.
Q. The neonatologist is charged with the evaluating and

treating the newborn, and the pediatric neurologist, if involved, is generally involved as a consult, correct?

A. That's true. You didn't ask that before. The comfort or the diagnosis depends how often you see the kids.

Q. Can we agree that since the neonatologist deals with the baby from the delivery room until discharged from the hospital more often, and more commonly and really exclusively doesn't deal with the child after that, generally speaking?

A. Right.

Q. Can we agree that the neonatologist is in a better position, generally speaking, to rule in or rule out the presence of birth asphyxia?

MS. CLARK: Objection, asked and answered.

THE WITNESS: Yes.

BY MR. FEDERICO:

Q. Now the neonatologist in this case from the defendant Holy Cross Hospital, do you know who that person was or is?

A. Offhand, I don't remember his name.

Q. The neonatologist's assessment is a term infant male. Do you agree with that?

A Yes.

Q And number two is birth asphyxia. Do you agree with that?

A No. I don't use the term birth asphyxia. But I think asphyxia is agreed with

Q What is birth asphyxia?

A. It is a misleading term. I mean, I think it implies --

Q If I look it up in a medical dictionary or a neonatology textbook what would the definition of birth asphyxia be?

A The definition of asphyxia that would be the clinical and laboratory evidence of asphyxia at birth.

Q And doesn't that tend to imply that if there is injury -- if you have a child who has severe cerebral palsy secondary to hypoxic ischemic encephalopathy, if that is associated with birth asphyxia, doesn't that tend to imply an acute injury?

A Unfortunately yes, even when there is no proof. But yes, that's the implication.

Q So with regard to timing of HIE, the next factor that you had on your list after seizures, was

profile in the first several days. What do you mean by that?

A. Well, clinically how did the baby maintain its level of arousal, maintain its resting tone, evolve its seizure like activity, and respond to other organ disorders during those first several days?

Q. Let's talk about reaction of other organs. Essentially, multi-organ failure is what we are talking about or multi-organ dysfunction?

A. Dysfunction is better, and what type of dysfunction, because I am pointing to particularly the bone marrow, and the response of the cellular blood products that do not fit this acute profile that you are asking me to consider; namely, the nucleated red blood cell count, together with I think the DIC picture, but most importantly, the NRBC's reflect stress on an organ that I would not expect to have an abnormal response if we were, hypothetically, saying this was acute.

Q. In layman's terms, you are saying the thrombocytopenia is more than you would expect with acute?

A. No. It is -- the NRBC is an immature red blood cell with a nucleus in it, and there were 58 seen in the

1 peripheral blood
2 That's a tremendous amount over the five
3 maximum that we use to suppose to see in normal
4 newborns that takes 45 hours to mount a response
5 that is above five and if it is 35. I would say it
6 is probably clear to me that this is a chronic
7 stress to the bone marrow prior to Dorothy
8 Bertagello entering Holy Cross Hospital to deliver a
9 baby
10 Q Have you ever seen a child with birth asphyxia and a
11 hypoxic ischemic brain injury resulting in severe
12 cerebral palsy where there has been had this degree of
13 abnormal blood work?
14 A Which blood work? And on which day?
15 Q The overall picture
16 A If you were to take the nucleated blood cell count
17 and put it to the fourth or fifth, sixth day of
18 life, maybe
19 Q Okay.
20 A If you were to take the DIC picture alone, without
21 the NRBC's, maybe, hypothetically. But I am talking
22 about Josua and it does not ring true that the
23 organ systems that would be involved could be the
24 bone marrow -- and then it wasn't even getting to

the lung -- but the bone marrow right now suggests a chronic problem.

Q. Other than the blood work and bone marrow, production of red blood cells, what other organs does one normally look at for multi-organ dysfunction secondary to acute or chronic asphyxia?

A. Well, for the acute picture, you are looking for multi-organ involvement with lung and kidney probably being the more likely two organs that would be affected if there was an acute component. There may have been an acute component if we are looking at the dropoff in urine output, the oliguria that you mentioned earlier, although there are drugs that can cause a dropoff in urine output, such as Phenobarbital, but the lung and the kidney would be, in response to your question.

Q. We can agree, can we not, that decreased urine output is consistent with an acute asphyxic event?

A. As one possibility that's correct, but I have mentioned others.

Q. And what are you looking for in the lungs which would be consistent with an acute asphyxic event as opposed to a chronic one?

A. Well, I think it is limited, and in Joshua's case,

fortunately, from my interpretation of the facts, the persistent fetal dilation diagnosis for me says it is a chronic anti-partum condition. That's a lung condition that, although aggravated probably by the meconium aspiration, is a condition that has to have its onset with stress, probably asphyxial in utero, to cause the abnormal function of lung and heart after birth, leading to that diagnosis.

Q. But you could have severe asphyxia within three hours of delivery where the asphyxia was ***so*** severe and lasted so long that the child was born dead?

A. Yes.

Q. I mean, it doesn't take long in the setting of severe asphyxia to cause permanent brain injury, does it?

A. That's correct.

Q. Now if you have severe asphyxia within three hours of delivery, you can have persistent fetal circulation in the neonatal time frame, can you not?

A. Well, that's how it is diagnosed in the neonatal time frame. I guess I am not understanding your question.

Q. Well, you can have persistent fetal circulation, which is consistent with or even the result of a

severe asphyxia within three hours of delivery?

A. No, no, no. You are mixing up. I see what you are asking. You are saying, well, the onset of the event occurred within three hours of life and, therefore, it is an acute problem.

Is that what you are saying?

Q. No, I am saying you have severe asphyxia --

A. Yeah.

Q. -- within three hours of delivery.

A. Yes.

Q. Okay.

A. Such as an arrest or what has happened to the child.

Q. Within three hours of birth, the child has experienced severe asphyxia, okay?

A. Okay.

Q. And the child is asphyxic at birth, acidotic at birth, depressed at birth, okay?

A. Okay. Go ahead.

Q. The onset of persistent fetal circulation after delivery is consistent with that, is it not?

A. No.

Q. Why not?

A. I mean, the whole purpose of diagnosis of that disorder implies a chronic change to the pulmonary

artery, which affects the hemodynamics of blood flow to the lung and ultimately aeration of the lung.

Based on our current knowledge of PPHN, which is persistent pulmonary hypertension in the newborn that is a chronic anti-partum. It used to be thought acute, but the literature now suggests it is not. You may have lung disease which is asphyxia which --

Q. You can have persistent pulmonary hypertension which is chronic or acute asphyxia, depending on the severity of it?

A. No, I would not agree with that based on my current knowledge of what the literature says about PPHN. I am using that as part of my chronicity.

That particular lung diagnosis in the absence of heart malformations, which you have to rule out, suggests a more chronic stress in utero, which we know this child had.

Q. Can we agree that this child's laboratory data as it relates to asphyxia is consistent with acute asphyxia?

A. I don't mean to be picky, picky, but please point out which laboratory data.

Q. You mentioned as one of the factors --

A. I was implying the nucleated red blood cell count.
Q. Certainly blood gases, cord blood gases were something you would want to look at in terms of timing an injury, correct?
A. Timing of stress, yes, but if you notice the first arterial blood gas of the child, which we haven't talked about yet, was already 7.2 with a base deficit of only minus 10. This child was being adequately resuscitated, and that abnormal 7.09, which is markedly abnormal, if we agree it is arterial versus venous, compared to a much better 7.2 at around five or six months of life.
Q. Do you agree that the more acute the asphyxia, the more easy it is to reverse the asphyxia?
A. In general, I would think that's probably the case, yes.
Q. Now this child's initial blood gases -- and that may be somewhat misleading, the cord blood gases, if you will --
A. Yes.
Q. -- they are consistent with an acute asphyxic event, are they not?
A. Yes.
Q. And when were the blood gases next taken from the

child after the cord gas?

A. During that first hour of life. I don't exactly know when.

Q. Were they consistent with an acute asphyxic event?

A. Yes, that was rapidly resolving.

Q. Okay. Now moving to imaging findings --

A. Yes.

Q. -- have you looked at any films in this case?

A. No, I have not.

Q. Now if a child experiences an acute asphyxic event, birth asphyxia, which results in hypoxic ischemic encephalopathy and severe cerebral palsy, we can agree, can we not, that very often the ultrasound within 24 hours of life will be normal, because there hasn't been sufficient time for cerebral edema to manifest?

A. That is true. It takes a maximum of a couple of days to see effects of asphyxial stress, causing cerebral swelling.

Q. Well, they did do imaging studies in this case, did they not?

A. Yes.

Q. Bear with me.

A. I believe on the 7th, there was an ultrasound.

Q. There was, and it was normal?
A. Yes.
Q. And that would be consistent with an acute asphyxic event?
A. Or a chronic asphyxic event. I don't think it helps either way. I think it is more helpful to me, because of what else happened on clinical exam later, which I will get to.
Q. It is really not, with all due respect. If we had a chronic asphyxic event, Doctor, which happened, whenever you think -- well, first of all, can you tell me with reasonable medical certainty, in terms of timing, did -- first **of all**, you believe it was a chronic asphyxic event that caused this child's brain injury as opposed to an acute asphyxic event, right?
A. Right.
Q. Can you tell me with reasonable medical certainty whether or not this happened within the first trimester, second trimester or third trimester?

MS. CLARK: Objection, medical probability.

THE **WITNESS:** I can't reach a medical probability, but I speculate it is most likely the

third trimester.

MR. FEDERICO: I am not interested in speculation, and I will ask my question again.

BY MR. FEDERICO:

Q. Can you tell me, Doctor, based upon reasonable medical probability, whether or not this child's asphyxic event which subsequently caused the hypoxic ischemic encephalopathy and severe cerebral palsy occurred within the first trimester, second trimester or third trimester?

A. Third trimester.

Q. Based upon reasonable medical probability without speculation?

It seems somewhat inconsistent with your prior answer, with all due respect.

A. Well, I have already given opinion that I am holding that this is within a reasonable degree of medical probability prior to labor and delivery. I have to commit myself to sometime prior to labor and delivery.

Q. Not really, but you can if you want.

A. And I would choose, given the way you phrased the question, the third trimester, because of a certain absence of things in the baby and the presence of

other features that make it, more likely than not, third trimester rather than second or first.

Q. The third trimester begins at what week, roughly?

A. 28, roughly.

Q. Do you have an opinion based on reasonable medical probability when between the 28th and 38th week the asphyxic event which caused permanent brain injury to Joshua Barbagallo occurred?

A. No.

Q. Okay.

A. With the absence of growth retardation, which would make it much more of a whole trimester process, this placental insufficiency, which may be part of the picture of stress to the brain, would have compromised weight.

Q. So if I understand your opinion with regard to timing, you can say with reasonable medical probability or certainty that before the mother arrives on September 6th, 1988, the asphyxic event which caused permanent brain damage, in your mind, has already occurred?

A. Yes.

Q. When before she arrives at the hospital?

You can't tell me with reasonable medical

probability or certainty?
A. Correct.
Q. Other than to say sometime in the third trimester?
A. Well, that's correct. It is incremental, based on the chronic condition that the mother suffered which the baby reacted to.
Q. What was that?
A. Well, her systemic lupus is the major autoimmune disease that she suffered, which I believe is central to why the baby was damaged.
Q. How did the lupus cause damage to the baby?
A. If I am allowed to give a speculative response, I think that we don't have proof of that, but there are vascular changes that occur to the placenta, so that indirectly affects baby through profusion. There are direct effects causing vasculopathy that may cause strokes or ischemic issues to the baby because of proteins or substances created by the mother, but I have no proof of that.
Q. The worst the placenta at the time of delivery in terms of its appearance and in terms of its age and the degree of calcifications --
A. Yes.
Q. -- the more likely it is that the injury is chronic

as opposed to acute?

That's fair, isn't it?

A. Not just the worst, but the type of findings, too.

Q. Okay.

A. I agree with you, the worst it is, and it depends on what it is. If we are talking about calcifications, that would be the worst. Calcifications, yes.

Q. If we are talking about -- and I think we are in this case -- this child's injury being secondary to placental insufficiency associated with the **SLE** and the vascular vasculitis --

A. Yeah.

Q. -- the worst the placenta appears at birth, the more likely it is that it is a chronic injury, correct? That's fair?

A. That is one thing I would look to, but I **also** know the literature doesn't reflect that.

Q. This placenta at birth, according to the pathologist, didn't look so bad, did it?

A. That's correct.

a. And this placenta at birth would be more consistent with an acute injury, would it not?

A. No, because that's where we differ. We are asking about degree of abnormalities. The only kind of

abnormalities that the placental pathologist or the pathologist -- I don't know if he is experienced in placenta or other aspects -- talks about calcifications, not anything else. The calcifications is in a chronic category, so, if anything, the only thing he bothers to mention is of a chronic import and not acute.

Q. Which leads you to believe that the only abnormality of the placenta was the presence of some calcifications, correct?

A. Unless I had access to -- that's correct based upon what is written in the records, correct.

Q. You are not a pathologist?

A. No.

Q. And not a placental pathologist?

A. But I use the pathology.

Q. And in this case, you rely on the pathology report?

A. Depending on who is doing it.

Q. You don't have any reason to disagree with this report, do you?

A. Not at the moment.

If there was a chance to look at the sections, I would like to have an opportunity with someone with more placental experience to take a

stab at it.

Q. Are you an expert in the placental interpretation of pathology slides?

A. No, of course not, but I do certainly ask my pathologist's consultation, as I do my obstetrician of the interpretation of a fetal heart rate strip.

Q. Understandable, but you don't have any reason to disagree with this pathology report?

A. No.

Q. And with regard to the this pathology report, the only thing it mentions is patchy -- in terms of abnormalities is patchy calcification of the placenta, correct?

A. Well, yes. There is also a weight of **610** grams, which **I** believe I -- have to look at the means and standard deviations -- that sounds like a high placenta above the 90th percentile. He doesn't mention that, but that is a heavy placenta.

The child was hydropic. Joshua had doughy, swollen subcutaneous tissues, and that large placenta may be relevant, but he didn't mention that. I am not there. I can't ask him to look in more detail what he meant by that.

I do know that children's placentas above

the 90th and the 10th have an increased risk for profusion abnormalities. With my discussions with the pathologist, that's not mentioned in the clinical report. What I am trying to say is the placental report by and of itself is only saying as a marker, and the only marker that the pathologist is willing to say as chronic, not acute.

Q. Hardly. He says patchy calcifications and never mentions the word "chronic."

A. But --

Q. Let me finish.

A. Sorry.

Q. And the presence of patchy calcifications, Doctor, doesn't lead you one way or other to chronic injury as opposed to chronic or acute?

A. It does. More than 72 hours, in the pathologist's observation, based on my experience.

Q. Now let's get back to the imaging studies. The ultrasound that was done on the 7th, which was normal, would be consistent with an acute asphyxic event, correct?

A. In and **of** itself, yes.

Q. And if you had a chronic asphyxic event that happened that was severe in nature, if the asphyxic

event was, let's say, more than 48 hours old and it was severe in nature, more likely than not, you would expect to see some abnormality on an ultrasound of the head?

A. No.

I think if you were to give me a choice, I would be more likely to see abnormalities if it was acute rather than if it was chronic.

Q. There is a time frame?

A. You are calling something chronic and saying 48 hours only. I am saying that there is a time course in cerebral edema, about a 72-hour window, which maxes out around the first day or so.

Q. If you have an asphyxic event which is severe in nature, severe enough to cause hypoxic ischemic encephalopathy and severe cerebral palsy -- with me so far?

A. Yes.

Q. And then after that event you take an ultrasound of the head at 24 hours, is that more likely than not to be normal or abnormal?

A. More than 24 hours or less?

Q. At 24 hours.

A. More likely would be abnormal.

Q. Abnormal?
A. Yes.
Q. If you understand those circumstances, take ultrasound of the head at 48 hours, is it more likely than not to be abnormal?
A. Abnormal.
Q. Now if you have a severe asphyxic event which results in a hypoxic ischemic encephalopathy and severe cerebral palsy, if you take an ultrasound of the head not at 24 hours, but within 24 hours, prior to 24 hours, can we agree that that's more likely than not to be normal?
A. Depends if it is at 23 versus 6. I am sorry.
Q. The closer you get to 24, the more likely it is to be abnormal?
A. Correct.
Q. There was a CAT scan of the head done on September 9th, 1988?
A. Yes.
Q. Correct?
A. Yes.
Q. You haven't seen the film?
A. No.
Q. The impression is multiple regions of cerebral and

cerebellar hemorrhage?

A. Yes.

Q. And that more, likely than not, is related to some asphyxic event, can we agree?

A. If we agree that that indeed is what is there, yes. Since I haven't looked at the films -- I would like to say I would like to get a crack at them if they exist, because in the progress notes by the physicians there is mention of question of calcifications versus hemorrhage that I don't think we can unravel today.

Q. You are not a radiologist?

A. No.

Q. You are not a neuroradiologist?

A. No.

Q. You do look at CAT scans of the head, correct?

A. Very often, yes.

Q. But generally speaking, would you defer to a neuroradiologist on the interpretation of a subtlety such as hemorrhage versus calcifications?

A. That is not *so* subtle, and I think that I am in a better position than the radiologist to comment on its chronicity or not. In general, if they do it every day, I am going to listen to their opinion and

it is going to affect me, but there are times when I sit there with the radiologist and say no, this is not what I think you think.

Q. Do you know Fitz?

A. He works at our hospital now.

Q. He is supposed to be a hot shot.

A. No, I don't think he is a hot shot, but he is a competent. I have seen many neuroradiologists through my 20 years. He is competent.

Q. Certainly you have no reason to disagree with him?

A. At this point in time I don't, but I would like to get a chance to be on even par with him and look at the scans.

Q. He also says focal, but extensive anoxic damage?

A. Okay.

Q. Do you agree with that?

A. I can't disagree without seeing the films, but I will say if the child is born at three days and this is done -- I am sorry -- born on the 6th, and this is done on day three, if there are extensive changes only already at 72 hours, I am a little suspicious of that suggesting a chronic problem, but I need to see the films.

Q. Okay.

A. 72 hours of life, if you are saying let's consider this acute at birth, doesn't equal what he is describing.

Q. Can we agree, Doctor, if this kid is born on the 6th and has a normal ultrasound on the 7th of the head and has abnormal CAT scan on the 9th --

A. Yeah.

Q. -- that that would be more consistent with an acute asphyxic event as opposed to a chronic event?

A. Without looking at the CT scan, I can't say and, also, the ultrasound. They are not synonymous tests.

Q. I know that.

A. You can't compare apples and oranges. What you are looking at is a ventricular outline in the ultrasound, and you are looking at the whole brain substance, as well as ventricular substance on the CT.

Q. I understand you haven't looked at the tests. I am going to ask you to assume that Dr. Fitz did an adequate job that day.

A. I am saying he probably did.

Q. And adequately interpreted the ultrasound and the CAT scan.

A. Okay.
Q. Can we agree that if Joshua was born on the 6th and had a normal ultrasound on the 7th and had an abnormal CT on the 9th, as reflected in the records, that those findings, though imaging findings are more likely than not associated with an acute event as opposed to a chronic event?
A. Then the only way I can respond is as I did for the placenta. It depends on what you are talking about. If you are talking about hemorrhage and it was hemorrhage, yeah.
Q. Okay.
A. In the context of a child with DIC and low platelets, that could have been acute. When talking about low attenuation, which Fitz is describing, an additional feature doesn't ring acute. There may be two types of features there, an acute one and a chronic one.
Q. You don't know because you haven't seen the films?
A. Right.
Q. You have seen the reports?
A. Yes.
Q. Can we agree that the reports indicating abnormal ultrasound on the 7th and abnormal CT on the 9th are

consistent with an acute asphyxic event?

A. No.

Given one part of the findings seen on the CT scan, which is the ultrasound, is not commented on. The ultrasound, it is meant to **look** at the ventricular outline and what is in the ventricles, ***so*** I can't agree.

Q. What about the obstetrical information in this case leads you to believe that this was either an acute or a chronic event?

A. Oh, that's more general. We have touched upon my knowledge of SLE and its effects on the fetus as a chronic problem. I have admitted to the nonspecific nature of decreased fetal movement over the two days before, and that alone is not a reasonable degree of medical probability. I have already discussed that, but that was a piece of information that was useful.

What else?

This mother had not delivered successfully a normal pregnancy, a normal child. She had had an unsuccessful pregnancy before. That, in general, is of a concern to me as a neurologist for problems that are prenatal or anti-partum.

Q. What about subsequent pregnancies, would you take

those into consideration?

A. Of course.

Q. Do you know what happened?

A. I think she has had other children.

Q. Do you think they are okay?

A. I think so.

I haven't seen the records, but I am assuming that they are. Before that date she hadn't, and she had lupus at the time, too.

What concerns me was that she had a chlamydial infection in the past, a form of venereal infection. I don't think that is relevant to this case.

She used drugs, at least by report, and there is a question of a social worker saying of trauma or abuse by a fiancee.

These are all speculation and hearsay, but those potentially are concerns to the fetus, all concerns that were percolating. What I focused in on after seeing all of that was that the lupus was the most relevant to what was going on.

Q. First of all, there is no reliable evidence of drug use during the pregnancy, correct?

A. Correct.

Q. Can we agree that drug use is not relevant in terms of your opinion with reasonable medical certainty as to the cause of this child's injuries?

A. I would have to agree.

Q. Can we agree that trauma, likewise, is not relevant with regard to your opinions, based on reasonable medical certainty, as to the cause of this child's injuries?

A. Correct.

Q. And the same would apply for the chlamydia infection. Can we agree that the chlamydia infection is not relevant with regard to your opinions, based on the reasonable medical certainty with regard to this child's brain injury?

A. Correct.

Q. How does the child's present condition, if at all, affect your opinion regarding timing of the injury? Strike that.

I will ask it this way. You can have an acute hypoxic ischemic --

You can have an acute asphyxic event within three hours of delivery which manifests itself in this child's current condition, can you not?

A. Yes.

Q. So then, this child's current condition doesn't really reliably help one way or the other?

A. Neurologically, that is true.

I was given information recently that the child has cystic fibrosis. That is a non-neurologic problem.

Q. Right.

A. That makes me real uncomfortable, based on the fact that she has got a genetic disorder on top of having her neurologic problems, which I think are due to SLE, but I can't put the two together. That's a piece of information I was just given January whatever it was, the most recent date -- January 18th.

Q. You are going to get some additional records from John's Hopkins, which I don't think I even have yet, which rule out cystic fibrosis.

MS. **CLARK:** When you get them, I would like to see them.

MR. FEDERICO: You will get them. I don't know what is going on either, to be honest with you.

THE WITNESS: I think they are more relevant to life span than to the issues we are

talking about today.

MR. FEDERICO: Of course, right.

BY MR. FEDERICO:

Q. Any aspects of your opinion with regard to causation, etiology, timing, anything that we have not discussed?

A. I didn't touch upon something you asked me in general, and that's the hydrops that you alluded to do.

Q. What is the deal with the hydrops?

A. By definition, when a child has occlusion of fluid in subcutaneous tissue below the skin, that's called hydrops, and if seen in a newborn, it is assumed it is fetal ischemic or fetal onset.

This child had term edema or scleroderma, not classically what is described as hydrops. It is more doughy. You press the skin and it stays depressed sort of thing -- not normally what children with hydrops tend to have, but it is a finding. That had to accumulate over time. We know this baby was under stress in utero.

My understanding, in consultation with kids with hydrops fetalis -- this kid had a nonimmune form that did not involve blood disorders,

and it was most likely due to lupus of the nonimmune forms. There is a shopping list a mile long, and lupus or autoimmune disease fits into it.

The point I am making to you is that I think when I see kids with hydrops fetalis, they have chronic lesions on their autopsy findings, that I see on their imaging findings if they survive, and they may have the same EEG findings at birth from a chronic brain disorder.

Q. You can't say with medical certainty that this child, in fact, had hydrops?

A. Yes, I can.

If it was seen at birth, and we have an exam going to Holy Cross of scleroderma, that did not happen within three hours of labor and delivery. That was a chronic finding.

Q. Hydrops is a significant finding in the neonate, is it not?

A. Yes. It can be reversible, but it is significant.

Q. If present, it should be documented?

A. And I think it was.

Q. Can you show me where on the chart somebody arrived at a diagnosis of hydrops in this case?

A. I can't. It is the term edema and scleroderma that

I think is relevant.

Q Edema and scleroderma doesn t necessarily mean hydrops, does it?

A It may or may not, but it is a chronic condition that accumulates fluid under the skin

Q There are a lot of things which cause accumulation of fluid under the skin which may or may not be related to this child's brain injury You have children all the time after birth who have a compilation of fluid under the skin that do not have brain injury?

A I would say they tend to be, first of all, diagnosed as hydrops fetalis. I am not sure how accurate the diagnostics were in listing them. I would like to discuss, and you can discuss that with the neonatologist folks, but it is not a normal feature to have that.

Q. Nobody diagnosed hydrops in this case?

A. By the name hydrops fetalis, that was not mentioned

Q. And in terms of the etiology of the edema or the scleroderma

Yeah.

-- did anybody document the etiology?

A No.

Q. And can we agree that you cannot say with reasonable medical certainty as to what the etiology of the edema or scleroderma was?

causation that we have not discussed?

A. No, I think we have covered everything.

Q. That being the case, let's move on to life expectancy, which I think is the only other thing you are going to be addressing at trial.

A. Correct.

Q. Dr. Freeman in his deposition expressed the opinion, based on reasonable medical certainty, Joshua Barbagallo is not going to live a normal lie expectancy. Do you agree with that?

A. Yes.

Q. He also said that he could not say, based on reasonable medical certainty, how long Joshua Barbagallo would live. Do you agree with that?

A. For every particular patient, of course, I have to agree with that. I can't predict that for the individual child.

Q. And you can't predict that for Joshua Barbagallo being the individual child, right?

A. For the specific time of death, no. For a range, I could give you an estimate, which is why you are asking me these questions.

Q. But Dr. Freeman, I don't think could.

Do you have an opinion, based upon

reasonable medical certainty, as to not the year Joshua Barbagallo would die, but the decade in which he will die?

A. Yes.

Q. Let's assume Joshua Barbagallo does not have cystic fibrosis.

A. Good, I hope he doesn't.

Q. I hope he doesn't, either.

What is your opinion, based upon reasonable medical certainty, as to the decade in which he will die?

A. The end of the second to the beginning of the third. That's my estimate. That means late teens or early twenties.

That's more from my experience seeing chronic care kids from residential facilities who last into their early adulthood. Given his nonambulatory status or the seizures and pneumonias he has had and cardiorespiratory applications that people have, that's what does them in and they die.

Q. Can we agree that the better of quality of care he receives in his life, the longer he is likely to live?

There is a correlation between quality of

care and the longevity in children like Joshua Barbagallo?

A. Yes. Although sometimes that can be from the family rather than an institution, that's correct.

Q. Can we agree that, generally speaking, assuming the family is adequately trained or assuming the family is in a position to employ adequately trained personnel, that the child like Joshua who is housed at home with family care or care from adequately trained health care providers is going to have a better life expectancy than the child who is put into an institution?

MS. CLARK: Objection.

THE WITNESS: That's not my experience. In my experience, those kids in a facility already that have teams that can respond to a code, which I don't think you can do at home, survive more.

I give credit to the individual families I see who do a good job in caring for the child and making them comfortable, but in terms of the emergencies that occur, you can't equate family, who are not professionals, even if they have their own live-in care. It is not the same to be at home versus be in a hospital when you have a code or an

arrest.

Q. Kids like this don't live in hospitals?

A. Yes, they do.

Q. They live in hospitals?

A. It depends on the family's wishes, but, yes, they can.

Q. Do you know if it is more expensive to live in a hospital or at home?

A. I don't know that. I would rather defer to those who have been deposed in the economics of it. It depends on the SSI.

Q. We will defer to somebody else. If this child has cystic fibrosis, based on reasonable medical certainty, what is your opinion as to the life expectancy?

A. It will be shorter. It could be in the same range of either the second or into the third. I have seen cystic fibrotics, otherwise healthy, live that long, but he is not otherwise healthy, so I would say he would die at a younger age then.

Q. Have you seen the report of Dr. Myer in this case?

A. Yes, I have.

Q. It is a little over a page. Do you have a copy of it? I will give you mine.

A. Thank you.
Q. Take a second to read it, and tell me if there is anything that you disagree with.
A. I have reviewed Dr. Myer's report, and I have no objection with what he has said about Joshua's condition.
Q. Have you reviewed his deposition?
A. Yes.
Q. Do you have any disagreements with what he says in his deposition?
A. Well, I would say yes, because his overall impression is different than mine, but you will have to point specifically to what you mean by that.
Q. In the interest of time, I will skip that.

Have you seen children like Joshua Barbagallo live into their 30s?

A. I have not.
Q. Are there people who are in their 30s who have severe cerebral palsy?
A. Yes.
Q. Are there people who are in their 30s who have severe cerebral palsy secondary to hypoxic ischemic encephalopathy?
A. They may be.

Q. Are there people in their forties who have severe cerebral palsy secondary to hypoxic ischemic encephalopathy?

A. I don't think so.

Q. No?

A. It is not something I have heard about or seen or discussed with my adult neurology colleagues.

Q. Do you know whether or not there are people who are alive and in their forties who have severe cerebral palsy secondary to hypoxic ischemic encephalopathy?

A. I do not personally, no.

Q. Joshua could die next week?

A. Yes.

Q. Joshua could live into his 30s?

MS. CLARK: Objection to form.

THE WITNESS: He could, but he probably won't.

BY MR. FEDERICO:

Q. Well, you don't know to a reasonable medical certainty when he will die, do you?

A. Correct.

Q. Are there any aspects of your opinion in this case, any issues you have been asked to address which I have not covered?

A. No.

Q. Thank you for your time.

MS. CLARK: I have no questions.

Doctor, do you want to read?

THE WITNESS: Yes, I would like to.

- - - -

(Whereupon, the proceedings were concluded at 12:10 p.m.)

- - - -

COMMONWEALTH OF PENNSYLVANIA) CERTIFICATE

COUNTY OF ALLEGHENY) SS:

I, Janette Dukic, RPR, a Notary Public in and for the Commonwealth of Pennsylvania, do hereby certify that the witness, MARK S. SCHER, M.D., was by me first duly sworn to testify to the truth, the whole truth, and nothing but the truth; that the foregoing deposition was taken at the time and place stated herein; and that the said deposition was recorded stenographically by me and then reduced to printing under my direction, and constitutes a true record of the testimony given by said witness.

I further certify that the inspection, reading and signing of said deposition were not waived by counsel for the respective parties and by the witness.

I further certify that I am not a relative, employee or attorney of any of the parties, or a relative or employee of either counsel, and that I am in no way interested directly or indirectly in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office this 6th day of February, 1995.

Janette Dukic

Notary Public

Notarial Seal
Janette I. Dukic, Notary Public
Pittsburgh, Allegheny County
My Commission Expires July 22, 1996

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF ALLEGHENY)

E R R A T A
S H E E T

I, MARK S. SCHER, M.D., have read the foregoing pages of my deposition given on January 25, 1995, and wish to make the following, if any, amendments, additions, deletions or corrections:

Pg. No. Line No. Change and reason for change:

In all other respects the transcript is true and correct.

_____
MARK S. SCHER, M.D.

Subscribed and sworn to before me this
_____ day of _____, 1995.

_____
Notary Public

(JID)

AUL, KARLOVITS & FULESDAY, INC.
312 Boulevard of the Allies
Pittsburgh, PA 15222
(412) 261-2323

February 8, 1995

TO: Denise E. Clark, Esq.

RE: DEPOSITION OF MARK S. SCHER, M.D.

NOTICE OF NON-WAIVER OF SIGNATURE

Please have the deponent read his deposition transcript. All corrections are to be noted on the preceding Errata Sheet.

Upon completion of the above, the Deponent must affix his signature on the Errata Sheet, and it is to then be notarized.

Please forward the signed original of the Errata Sheet to Philip C. Federico, Esq. for attachment to the original transcript, which is in his possession. Send a copy of same to all counsel, and also a copy to me.

Please return the completed Errata Sheet within thirty (30) days of receipt hereof.

Janette Dukic, RPR
Court Reporter

F

G

M

T

U

Barbagallo 38 wk ♂ PFC mother c SLE
loss fetal ♥, (+) utero test. late decels
Apgas 2' 6⁵'. Cord pH 7.09, art. ABG
pH 7.22 BE -10 Fishy tone sclerenic
DIC ↓plat trends 56 → 49 → 38 wt 3.2

400
322-1987 Maternal SLE, chymatic IV drug abuse.

placenta & cord patch, cultures

BARBAGALLO v. LEKAGUL, et al.

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1. Statement of Claim
2. OB Clinic Records
3. Holy Cross - 1/29/88 Out-patient (Mother)
4. Holy Cross - 2/2/88 Admission (Mother)

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5. Johns Hopkins - 2/12/88 E.R. - Mother
6. Holy Cross - 3/15/88 Admission (Mother)

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7. Holy Cross Hospital - 7/13/88 Out-patient surgery (Mother)
8. Admission Holy Cross Hospital 8/23/88 (Mother)

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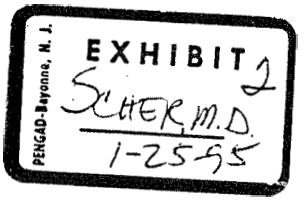

9. Holy Cross - **9/6/88** Admission (Mother)

Admission/Discharge
Labor & Delivery
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10. Fetal Monitoring Strips

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11. Holy Cross - **9/6/88** Birth

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12. Childrens' Hospital Records - **9/7/88** Admission - Joshua

13. Dermatological Evaluation at JHH - **9/88** - Joshua

14, Kennedy-Kreiger Institue Records

Volume III

15. **Mt.** Washington Pedicatric Hospital Records - 10/7/91 Admission

16. John Archer School Records

17. Taylor Medical Group (Dr. Gatz)

18. JHH 10/2/91 Admission

Volume IV

19. Franklin Square E.R. 11/10/91

20. Franklin Square 11/11/91 Admission

21. Franklin Square E.R. Records: 7/4/92, 7/9/92, 7/29/92, 10/2/92, 12/06/92, 1/14/93 5/17/93, 6/6/93

22. JHH 12/10/92 - outpt.

23. JHH 2/17/93

24. JHH - 3/10/93

25. JHH outpt. records

26. Dr. Singer's Records

27. Medical Health Group - Dorothy B. 1968-1985

28. Kennedy-Krieger Institute Records: **Received from Claimant**

29. Dr. Brayton's Records: **Received from Claimant**

30. Dr. Baroody's Records: **Received from Claimant**

31. Holy Cross - 3/12/88 E.R. Visit - Dorothy: **Received from Claimant**

Volume V

32. Fetal Monitoring Stips: **Received from Claimant**

33. Fallston General Hospital - Dorothy B. 6/5/86 E.R.

34. JHH Rheumotolgy - Dorothy 1988-1992