

COPY

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IN THE COURT OF COMMON PLEAS
LUCAS COUNTY, OHIO

AUSTIN SYBERT, etc., et al., : CASE NO. C10200003311
Plaintiffs, :

De bene esse
deposition of:

VS. :

: PETER KOLLROS, M.D.

DR. AMELIA ROUSH, et al.,

T R A N S C R I P T of the stenographic notes of
the proceedings in the above entitled matter was
held at the Airport Marriott, One Arrivals Road,
Philadelphia, PA, on January 29, 2002, commencing at
9:00 AM, before ANGELA R. WATERS, a Certified
Shorthand Reporter and Notary Public of the State of
New Jersey, and a Videographer, pursuant to Notice.

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I N D E X

WITNESS:

PAGE :

PETER KOLLROS, M.D.

By Mr. Becker

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E X H I B I T S

(No exhibits marked.)

1 VIDEOPGRAPHER: We are now on the
2 video record.

3 My name is Kevin Montgomery. I'm a
4 videographer employed by Esquire Deposition
5 Services, 1880 JFK Boulevard, Philadelphia,
6 Pennsylvania.

7 This is a video deposition for the
8 Court of Common Pleas of Lucas County, Ohio. Case
9 No. CI20003311. Today's date is January 29, 2002.
10 And the time is 9:13 AM.

11 This deposition is being held at the
12 Marriott Hotel, Philadelphia Airport, One Arrivals
13 Road, Philadelphia, Pennsylvania, in the matter of
14 Austin Sybert et al versus Dr. Amelia Roush, et al.

15 The deponent is Peter R. Kollros,
16 M.D. This deposition is being taken on behalf of
17 the Plaintiffs. Present today for Plaintiffs, Mr.
18 Michael F. Becker on the telephone. Present for
19 Defendants, Mr. Anthony Dapore, also on the
20 telephone. And present in person for Defendants,
21 Mr. E. Thomas Maguire.

22 You may proceed, Counsel.

23 MR. MAGUIRE: Just one correction.
24 This is Tom Maguire. Mr. Dapore is representing Dr.

1 Roush. And I'm representing St. Luke's Hospital.

2 Doctor, will you waive my
3 qualifications as a Notary so that I may swear you?

4 DR. KOLLROS: Yes.

5 MR. MAGUIRE: I understand that all
6 Counsel of record will waive my qualifications as
7 well?

8 MR. BECKER: Correct.

9 MR. DAPORE: Correct.

10 MR. MAGUIRE: Is that correct? Okay.

11 Doctor, raise your right hand.

12 Do you agree to tell the truth, the
13 whole truth, and nothing but the truth as you so
14 shall answer to God or so affirm?

15 DR. KOLLROS: I do.

16 MR. MAGUIRE: Go ahead, Mr. Becker.

17 MR. BECKER: Thank you.

18 DIRECT EXAMINATION

19 BY MR. BECKER: (via telephone).

20 Q Doctor, for the record would you
21 give us your full name, please.

22 A Yes. My name is Peter R. Kollros.

23 Q And what is your business address?

24 A It is -- it's the Section of Child

1 Neurology and Development, Temple University
2 Children's Medical Center, 3509 North Broad Street,
3 Philadelphia, PA 19140. I'm sorry.

4 Q Doctor, have you ever had your
5 deposition taken before?

6 A Yes, I have.

7 Q All right. I just want to review
8 the ground rules so that we understand each other.

9 A Certainly.

10 Q And because I am taking this
11 deposition by telephone, it's sometimes important to
12 give me an extra second after I finish my question,
13 just to insure that I am done so we don't speak over
14 one another. Fair enough?

15 A Fair enough.

16 Q This is a question/answer session
17 under oath. It's very important that you understand
18 the question that I ask.

19 If a question does not make sense or
20 is inartfully phrased, you stop me and tell me so.
21 And I will be pleased to attempt to rephrase, or
22 restate the question. Fair enough?

23 A Fair enough.

24 Q However, unless you indicate

1 otherwise to me, I am going to assume that you have
2 fully understood the question that has been posed.
3 You were given your best and most complete answer
4 today. Fair enough?

5 A Fair enough.

6 Q Please kind of retrain your answer
7 to verbal responses. And if possible, avoid the
8 uh-huh, ugh-ugh sound so that there's no question as
9 to what you mean at a later date. Fair enough?

10 A Fair enough.

11 Q What-- Doctor, I have a copy--
12 Mr. Maguire was kind enough to send me a copy of
13 your CV. And I have a date in the upper left-hand
14 corner May of '98.

15 A Okay.

16 Q Do you have any more current Vitae?

17 A Yes, I do.

18 Q Did you bring one with you by
19 chance?

20 A No, I did not. But I will be happy to
21 forward one to Mr. Maguire.

22 Q Let's talk about anything that
23 you've published, author'd, or coauthor'd since this
24 May '98 CV that I have in hand.

1 Are there any articles, or chapters
2 of books you've author'd or abstracts you author'd
3 or coauthor'd?

4 A I'm not sure what the last publication on
5 that CV is.

6 The most recent works would be a
7 publication on language development and something
8 called Landau Clefner Syndrome. And it was in one
9 of the developmental journals. I think that came
10 out in maybe '97, '98 or '00. There was--

11 Q To help you out--

12 A Okay.

13 Q -- the last article -- I guess these
14 are abstracts.

15 A They're abstracts. And then there are
16 articles in front of the abstracts.

17 Q All right. And the last article I
18 have is entitled Acquired Billy Five Left Deformed
19 Dysphasia. Current Concepts and Controversies
20 published in the Journal of Developmental of
21 Learning Disorder?

22 A Right. Right.

23 And then since that time there have
24 been two other publications. One was published in,

1 I believe, the European Journal of Pediatrics, or
2 the European-- I believe it was European Journal of
3 Pediatrics. And it also has to do with Landau
4 Clefner Syndrome, and EEG's with Landau Clefner
5 Syndrome. The first author on that paper was
6 Richard Boles, and other authors were Wendy
7 Mitchell. And a neurologist by the name of Edna
8 Botany.

9 Q Okay.

10 A And then --

11 Q Are those more recent articles
12 potentially relevant to the subject matter and/or
13 your opinions in this case?

14 A No. No. The only other one was a
15 published lecture on dyslexia.

16 Q All right. You went to the
17 University of Chicago-- or strike that.

18 Are you originally from the Illinois
19 area?

20 A I grew up in Iowa. I did my undergraduate
21 work at Northwestern University in Evanston,
22 Illinois. Then I went to the University of Chicago
23 for medical school where I earned an M.D., with
24 honors, and also a Ph.D in pathology.

1 From there I did a pediatric
2 internship, and a year of residency in pediatrics at
3 Children's Memorial Medical Center in Chicago. And
4 then from there I went to the University of Michigan
5 where I did child neurology training.

6 After finishing that training I
7 stayed on at Michigan for one year as a lecturer.
8 And did research, and then from there I moved to
9 Philadelphia, and joined the faculty at Jefferson
10 Medical School.

11 About two and-a-half years ago I
12 left Jefferson, and joined the faculty at Temple
13 University Medical School.

14 Q What was the reason you left
15 Jefferson?

16 A The reason I left Jefferson was -- they
17 were basically phasing out their Department of
18 Pediatrics, and out-sourcing it all to the
19 A.I. DuPont Institute. And the terms of employment
20 at DuPont were not as favorable.

21 Q Let's back up, doctor, to your days
22 in Chicago at the University Chicago where you
23 became, not only a Ph.D., but also the MD degree. Explain
24 that program to me.

1 How was it that you were able to
2 take two different study courses at the same time?

3 A Well, there is some overlap between what
4 you need to do to get an M.D., and the requirements
5 for a Ph.D in the biological sciences. It was
6 basically a program that I took seven years to do.
7 I did two years, the first two years of medical
8 school. Then I took off for medical school, and did
9 three years working on the PhD. Then I finished up
10 the last two years of medical school.

11 Q All right. What was the reason that
12 you wanted to obtain a PhD in pathology?

13 A The reason I wanted to obtain a PhD in
14 pathology because at the time I thought I wanted to
15 do medical research and have the qualifications in
16 order to do that.

17 Q Since obtaining that doctorate in
18 pathology, have you done any research in pathology?

19 A I've done medical research. The pathology
20 is the study of disease processes. And the research
21 I have done has been in the study of disease
22 processes, yes.

23 Q Okay. I mean are you actually--
24 since you started your clinical practice, have you

1 been in a pathology lab looking at slides, those
2 kind of things?

3 A No.

4 MR. MAGUIRE: Mr. Becker, we're not
5 going to use this expert for any pathological
6 testimony in the case.

7 MR. BECKER: Okay. That will save me
8 some time.

9 MR. MAGUIRE: Yeah.

10 MR. BECKER: Thank you.

11 BY MR. BECKER: (Continued).

12 Q Looking under "Major Research
13 Interest" on your Vitae, doctor, it says,
14 "Mechanisms of Perinatal Service System Injuries."

15 What does that mean? I think I know
16 what that means, but what does that mean?

17 A That would be mechanisms of brain injury at
18 or around the time of birth.

19 Q All right. What type of research
20 have you done on that issue?

21 A The research done on that issue has largely
22 been clinical research in terms of following babies
23 who have had perinatal insults.

24 And we published a paper in that

1 area in regards to their problems with hearing.

2 Q And who was your author -- who is
3 the lead author in that article?

4 A I believe it was Shuby Dasai.

5 Q And the name of the article was
6 Sensitivity and Specificity of Neonatal Brain Stem
7 Auditory Voc. Potential?

8 A Correct.

9 Q Is that the only article you
10 published secondary to your particular interest in
11 "Mechanism of Perinatal Nervous System Injury"?

12 A Yes. That's the only article I published
13 specifically in that area.

14 Q All right. Can you just give me a
15 thumbnail sketch of that article of what kind of a
16 syllabus as to what it stands for, or what the
17 upshot of the article was?

18 A Yeah. One the of the problems that
19 premature babies have is they have late-- there's a
20 certain percentage of them who have late hearing
21 loss.

22 And the question then becomes: Are
23 there ways of predicting which babies are likely to
24 have that, and whether or not the brain stem

1 auditory of Vogt's potentials are useful in that
2 regard?

3 And basically the thought is, is
4 that they're not useful in predicting which children
5 will have late hearing loss.

6 MR. MAGUIRE: Just a minute, Mr.
7 Becker. The court reporter has come in. She's set
8 up. And I'd like the record to reflect that she'll
9 take it along with the videotape at this time.
10 She's agreed to transcribe, not only what she's
11 going to take down, but also what's been taken down
12 by way of videotape.

13 MR. BECKER: All right. For the
14 record I would ask that the stenographer identify
15 herself, her firm, and her firm's phone number for
16 everyone at hand.

17 COURT REPORTER: Yes. My name is
18 Angela Waters. I'm with Esquire Deposition
19 Services. The phone number is 215-988-9191.

20 MR. BECKER: I'm sorry. I didn't get
21 the end of that.

22 COURT REPORTER: 215-988-9191.

23 MR. BECKER: Thank you.

24 COURT REPORTER: You're welcome.

1

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DIRECT EXAMINATION

3

BY MR. BECKER: (Continued)

4

Q Doctor, just a few more questions
off of your Vitae.

6

A Certainly.

7

Q There's an article entitled
"Intrauterine Onset of Mono-Neuropathy"?

9

A Right.

10

Q What does that mean?

11

A That was an article that I published with
Dr. Jones and Dr. Herbison in which we described a
baby who had a perineal nerve palsy. That's a nerve
in the leg.

15

And we were able to demonstrate that
the nerve injury had to have occurred in utero. And
that's an isolated nerve injury to a particular
nerve into the leg.

19

Q How did that baby-- what were the
symptoms and manifestations of that nerve injury?

21

A The baby didn't really move the effective
leg appropriately. There were not reflexes in that
leg. There seemed to-- the baby acted as though
there were some sensory deprivation in the leg that

24

1 the baby didn't feel things as well in that leg.

2 Q How were you able to utilize an EMG
3 to assist you in timing of injury?

4 A Basically with the EMG you -- it takes time
5 to show evidence of lack of nerve input to a
6 muscle. That's called "denervation."

7 When a muscle losses its input from
8 the peripheral nerve, there will be changes in the
9 muscle. The muscle will become more irritable.
10 Electrically it will have spontaneous discharges.
11 And that's something that takes time, generally, two
12 weeks. And we were able to show those late changes
13 in the baby's EMG on the day of birth.

14 Q Well, has there been any studies
15 that demonstrates that -- I'm assuming you're
16 applying the adult time for intervention --
17 innervation to approximately two weeks.

18 Has there been any studies that
19 have, for whatever reason -- I'm not sure how they
20 would ever do this-- determine or test to see if a
21 baby, a newborn has a different time span for
22 ^{de}innervation process?

23 A A different time span to show the late
24 changes?

1 Q Yes.

2 A That's -- that's a good question.

3 That question can be answered
4 indirectly, in that there have been some studies and
5 abstracts, some of which were done by Dr.
6 Konensberger which show that if-- that children who
7 have a peripheral nerve injury need not have the
8 late changes. And then over time, they will develop
9 the late changes.

10 So whether or not the time, a course
11 of two weeks is the correct time, the course for
12 neonates is not known. But there is evidence to
13 show that those late changes do not occur
14 immediately in neonates.

15 Q One more question on your Vitae, and
16 then we'll move onto your medical/legal experience.

17 The No. 14 on your Vitae talks
18 about--"do not cross the blood brain barrier, and
19 when you use the phrase "blood brain barrier," what
20 do you mean?

21 A The blood brain barrier is anatomically the
22 endothelial cells. Those are the cells that line
23 capillaries. In the brain they are very tightly
24 connected one to the other. And that's important

1 for controlling the chemical environment of the
2 brain. The chemical environment of the brain is
3 much more regulated than the chemical environment of
4 other organs. And this is what the blood brain
5 barrier is and does.

6 Q All right. Doctor, let's talk about
7 your medical/legal experience.

8 How long have you been reviewing
9 cases?

10 A I think I started reviewing cases probably
11 in 1991, or 92, or 93. And for the first several
12 years those were limited to vaccine injury cases for
13 the United States government.

14 Some time, a few years after that, I
15 began to do an occasional case in other
16 medical/legal venues.

17 Q All right. Let's say approximately
18 in 1995, how many cases a year were you reviewing?

19 A I would probably-- when I first started out
20 it was maybe 10.

21 At this point it probably is
22 somewhere around 20 to 30.

23 Q A year?

24 A Yeah. I've trailed off some this last

1 year.

2 Q And have you ever testified in
3 federal court?

4 A In federal court?

5 Q Yes.

6 A No. I've given depositions for federal
7 court. And and the vaccine injury is also a federal
8 hearing.

9 Q All right. Well, as you may or may
10 not know, in federal court, medical/legal witnesses
11 are required to a very list of their previous
12 medical/legal experience, including name of case,
13 attorney, et cetera, for the previous four years.

14 Have you ever done that?

15 A Yes, I did that for the depositions in one
16 case.

17 Q Do you still have that list?

18 A Um, yeah, I believe I probably do.

19 Q Would you be able to retrieve it and
20 send it to Mr. Maguire?

21 A Certainly.

22 Q In addition to that you-- some
23 experts keep a list of their active cases, or all
24 cases for that matter, on a computer, disk, or

1 anything like that.

2 Do you do that, sir?

3 A I have records on computer disks. I don't
4 know that it's complete.

5 Q What would be included on that list?

6 A It would -- it would be the cases that I
7 have worked on at different times.

8 I've used different computers, and
9 some of the cases may have been lost.

10 Q All right. Can you give me a
11 breakdown of the percentage of cases that you review
12 on behalf of the medical provider versus the
13 patient?

14 A The majority, the large majority for them
15 are for the medical provider.

16 I have done a product liability case
17 for a Plaintiff and testified in the Philadelphia
18 County Court for that. I have also reviewed a case
19 for an attorney in Pittsburg, Mr. Cappano, I
20 believe. I've actually reviewed two cases for him,
21 one of which we did provide an opinion for. And
22 there is a case in Orlando that is active right now
23 where I've worked for a Plaintiff.

24 Q What's the Plaintiff's name in

1 Orlando?

2 A Workman.

3 Q And the name of the Plaintiff's
4 attorney?

5 A I would have to check that for you.

6 Q Have you given a deposition, or
7 written a report in that case?

8 A I've written an Affidavit.

9 Q All right. What's the subject
10 matter of the Orlando case?

11 A It's a-- it's a case where they're alleging
12 perinatal brain injury. And it has to do with the
13 timing of the brain injury.

14 Q What is your opinion in that case if
15 you remember, in the Workman case?

16 A My opinion in the case was that there was a
17 brain injury that was caused, or significantly
18 exacerbated within the many hours that the mother
19 had been seen by the doctors in Orlando there prior
20 to her baby being born.

21 Q An asphyxia injury?

22 A Yes.

23 Q All right. And the case in
24 Pittsburg?

1 A The case where I offered an opinion was a
2 case where a -- I don't remember the name -- but I
3 remember very well the -- the facts. The mother had
4 a heart valve lesion and was going into heart
5 failure. And for the days prior to -- for the day
6 prior to the baby's birth, kept showing up in the
7 Emergency Room with heart failure. And it was
8 worsening and worsening. And she was having trouble
9 breathing in the Emergency Room. Just kept sending
10 her home until the baby ultimately was delivered
11 hours late. And there was a brain injury where the
12 time corresponded to the time that -- after the
13 mother had been to the Emergency Room.

14 Q So it was an adult neurological
15 injury?

16 A It was a neurological injury in the baby.
17 The mother was undergoing heart failure, and the
18 baby ultimately ended up in distress.

19 Q Okay. Doctor, would it be any
20 trouble for you to check your computer to see what
21 kind of an active list you have of cases and run
22 that list off and provide that to Mr. Maguire's law
23 firm?

24 A Sure I can do that.

1 Q Doctor, would you kind of give me a
2 sense as to your-- well, first of all before I talk
3 about your clinical practice, have you actually --
4 how many depositions, in total, have you given
5 medical/legal ones, excluding the vaccine cases?

6 A Number of depositions?

7 Q Yes.

8 A I would say two or three depositions.

9 Q So this might only be your fourth
10 deposition?

11 A Yes, this might only be my fourth
12 deposition.

13 Q All right. Now, do you advertise
14 your services, doctor?

15 A No, I do not.

16 Q Do you know how it was that
17 Mr. Maguire came to contact you?

18 A I believe that he got my name from a couple
19 of people that he had used, or had tried to use
20 otherwise.

21 Q On this case?

22 A I think in general.

23 I've worked on probably three or
24 four cases for his firm.

1 Q Have you actually written a report,
2 or given a deposition for him prior to this?

3 A I-- I wrote one report for him just last
4 month.

5 Q And what case was that?

6 A I believe it was Canfield.

7 Q That was the name of the Plaintiff?

8 A Yes.

9 Q What city; what state?

10 A It's in Ohio.

11 MR. MAGUIRE: It's Canfield against--
12 Flower I'm sorry-- Flower Hospital. It's in Eerie
13 County.

14 BY MR. BECKER:

15 Q Do you have any knowledge, doctor,
16 whether or not any other pediatric neurologist, or
17 pediatric neuro-radiologist have reviewed this
18 case?

19 MR. MAGUIRE: Now, wait a minute.
20 Wait a minute. I'm going to object to this. You're
21 getting into my work product, and we're not--

22 MR. BECKER: No, I'm not. I'm not
23 asking for any--

24 MR. MAGUIRE: Just a minute.

1 MR. BECKER: I want to know if he has
2 any knowledge.

3 MR. MAGUIRE: Just a minute, Mr.
4 Becker. You're getting into my work product. And we're
5 not going to get into this.

6 MR. BECKER: You can instruct him
7 not to answer.

8 MR. MAGUIRE: You can ask him if he
9 has personal knowledge, that's fine. But if he's
10 heard it through me, we're not going to do this.
11 You're not entitled to my work product.

12 MR. BECKER: Once I get--

13 Q First of all, do you have any
14 personal knowledge whether Mr. Maguire, based on
15 reports or anything else you've seen, has had this
16 case reviewed by either any other pediatric
17 neurologist or pediatric neuro-radiologist?

18 A I've seen no expert reports from any
19 pediatric neurologist, or any pediatric
20 neuro-radiologist.

21 MR. BECKER: Okay. And then I will
22 ask the question-- and, Tom, you can direct him not
23 to answer--

24 BY MR. BECKER:

1 Q Do you have any general knowledge
2 whether or not any other pediatric neurologist, or
3 pediatric neuro-radiologist have reviewed this
4 case?

5 MR. MAGUIRE: I will object to the
6 question. He may answer it over my objection which
7 I will reserve for the Court.

8 A My understanding is that certainly the
9 treating child neurologist has reviewed the case.

10 And my understanding is that the
11 co-defendant has a neuro-radiologist who has
12 reviewed the case.

13 Q Okay. Doctor, can you give me a
14 sense as to your current clinical practice?

15 A Yes. I am headquartered at Temple
16 Children's Hospital in Philadelphia which is a
17 teaching institution. I also am the co-neurology
18 course director. So I am in charge of teaching the
19 medical students neurology.

20 I see patients -- and it's a
21 hospital-based practice -- at Temple Children's,
22 three and-a-half days a week. I see patients one
23 half day a week at Lower Bucks Hospital as an
24 outpatient clinic at the Lower Bucks Hospital in

1 Bristol, Pennsylvania. And I also consult
2 extensively for school districts in the Delaware
3 Valley.

4 Q And you see-- give me the age range
5 of your patients?

6 A We start from premature babies. And I
7 think at this point probably my oldest patient is
8 about 23, or 24. He's a patient that I followed for
9 a number of years, and doesn't want to move on.

10 Q Doctor, do you have any -- do you
11 have a file on this case?

12 A Yes, I do.

13 Q Did you bring your file with you
14 here today?

15 A Yes, I did.

16 Q Would you deliniate for the record
17 everything that is in your file?

18 A Sure.

19 I have the office records of Dr.
20 Roush. I have records of Dr. Marlowe. I have the
21 St. Luke's OB observations from 7/20/99. I have the
22 St. Luke's admission from 7/22/99 to 7/25/99 for the
23 mother. I have the St. Luke's admission for 7/22/99
24 for the baby. I have the ETM transport records, and

1 I have the St. Vincent's Hospital admission 7/22/99
2 to 8/2/99 for the baby. There are also X-rays, CT,
3 and MRI scans.

4 Q Did you do any research, either for
5 today's deposition, or before you reached your final
6 decision?

7 A Um, I'm sorry. I don't understand the
8 question exactly.

9 Q Before reaching your ultimate
10 opinions on this case and/or before today's
11 deposition, did you engage in any research such as
12 looking at textbooks, looking at journal articles,
13 consulting with maybe a pediatric neurologist-- that
14 kind of thing?

15 A I mean I do that in the course of my work
16 all the time.

17 Q For this case, doctor?

18 A For this case, specifically? Nothing out
19 of the ordinary.

20 Q All right. I just wanted some-- do
21 you have any research articles within your file?

22 A No.

23 Q I mean do you have a specific
24 recollection of doing research for this case on a

1 certain issue?

2 A No.

3 Q Okay. And did you consult with any
4 type of radiologist or neuro-radiologist with film?

5 A No.

6 Q All right. Do you have any notes?

7 A No.

8 Q Did you ever generate any notes?

9 A No, I do not generate notes.

10 Q Did you ever generate a report on
11 this case?

12 A No, I did not.

13 Q Was there any written communication
14 between you and Mr. Maguire that was ever generated
15 by you?

16 A No.

17 Q Is there any electronic
18 communication by you, such as E-mail through Mr.
19 Maguire?

20 MR. MAGUIRE: I don't have an
21 E-mail.

22 A No.

23 Q All right. Why is it that you don't
24 have notes?

1 A Because what I generally do is I will put
2 stickies on the record at areas that I think are
3 relevant. And then I can always go back and find
4 out the information from the original source.

5 Q All right. And do the records have
6 Post-Its on them?

7 A Yes.

8 Q Is there a great number of them, or
9 just a few?

10 A Oh, I don't know. There's --

11 MR. MAGUIRE: There are about 50 of
12 them, Michael. Let's move on. I got to catch an
13 airplane.

14 Q All right. Can we agree, doctor,
15 that you'll give-- have someone, at my expense,
16 photocopy the pages that you have a Post-It on so I
17 don't have to go into them?

18 A Certainly.

19 Q All right. Doctor, you understand
20 that the purpose of today is to give me an
21 opportunity to know, in detail, all the opinions
22 you're going to render in this case at trial?

23 A Correct.

24 Q Okay. And also to give me an

1 opportunity to discover the bases for those opinions
2 as well, correct?

3 A Correct.

4 Q All right. Doctor, why don't you--
5 I'm assuming, doctor, you're not going to have an
6 opinion on standard of care?

7 A Um, not -- not in terms of the obstetrical
8 care, no.

9 Q Well, what-- do you have any opinion
10 on standard of care?

11 A No.

12 Q You-- I suspect you're going to have
13 an opinion on causation, correct?

14 A Correct.

15 Q Are you going to have an opinion on
16 life expectancy?

17 A No.

18 Q All right. So your opinions for
19 trial will strictly be limited to the topic of
20 causation, right?

21 A Yes.

22 If I might amend an answer to an
23 earlier question--

24 Q Yes, sir?

1 A In response to pediatric neurologist
2 reviewing the case, my understanding is that there
3 will be a life expectancy expert pediatric
4 neurologist as well. And I omitted that from my
5 previous answer.

6 Q Okay. All right.

7 Doctor, the -- I'm gathering,
8 doctor, that you feel this child sustained some
9 brain injury before he arrived at St. Luke's
10 Hospital on January 22nd; is that correct?

11 A That is correct.

12 Q I have July 22nd.

13 A July 22nd.

14 Q Okay. And was this a permanent
15 brain injury that he sustained?

16 A Yes.

17 Q Okay. And what was the etiology for
18 that brain injury?

19 A I'm not certain what the etiology for that
20 brain injury is.

21 Q Do you have an opinion in terms of
22 probability as to what the etiology of that brain
23 injury was?

24 A I would suspect that it was a problem with

1 placental fetal unit.

2 The MRI scans show that they have
3 periventricular leukomalacia. And we know that
4 occurs prior to the 35th week of gestation.

5 Q We'll talk about the scans in a
6 moment. But I just wanted to make sure as to the
7 etiology, if you have an opinion, more likely than
8 not, in terms of probability, or is it a bit simply
9 one-- one that you really have simply a possible
10 explanation?

11 A It's-- I don't really have an explanation
12 as to what the cause of the earlier injury was.

13 What I do see is a pattern of injury
14 which indicates that this occurred prior to the time
15 of the baby's birth.

16 Q Okay. So the record is clear, we
17 can move on, you don't have an opinion as to
18 etiology, you simply see a pattern of injury that
19 tells you the timing occurred before the 35th week?

20 A Correct.

21 Q And a pattern of injury is based on
22 an MRI or CT film?

23 A Yes, it's based on the imaging studies.
24 And the opinion is also based on the clinical record

1 at the time of birth in which there were problem --
2 clinical problems. But the-- the extent and the
3 pattern of those clinical problems do not support
4 permanent brain injury occurring at that time.

5 MR. MAGUIRE: Mr. Becker, I just
6 want a point of clarification, just so we're all on
7 the same page.

8 It's my understanding, he's just
9 testified that he has no medical probability opinion
10 as to the etiology of the injury. But he is stating
11 with medical probability with respect to the pattern
12 of injury as supported by the clinical evidence
13 after birth.

14 Is that correct, doctor, just so
15 we're all on the same page?

16 A Yes.

17 Q MR. MAGUIRE: All right.

18 BY MR. BECKER:

19 Q All right. Let's deal-- let's deal,
20 first of all, doctor, with the evidence on the
21 films.

22 Are we talking CT or MRI, and which
23 CT or MRI?

24 A We're talking several things.

1 First of all there was a CT done on
2 the day of birth, or the day after birth. And that
3 CT scan did not show evidence of edema.

4 Q Okay.

5 A And if there was significant brain injury
6 at the time of birth, then you would expect to see
7 evidence of edema on the CT scan. There were then
8 two MRI scans.

9 Q Let's deal-- before we talk to the
10 MRI's let me ask you a couple of questions about the
11 CT scans.

12 A Certainly.

13 Q Are MRI's more diagnostic than CT's
14 as far as picking out edema?

15 A Yes. In general, MRI's would be, but there
16 was no MRI scan done at a clinically relevant time
17 to find edema.

18 Q Okay. Right now when-- with the CT
19 scan, if there was a deep brain injury, would you
20 expect edema always to be appearing on a CT film?

21 A If there was a deep brain injury, yes, you
22 would expect to see edema.

23 Q Always?

24 A Yes. If there was significant brain

1 injury, you would expect to see edema.

2 Q And what is the basis of that
3 opinion?

4 A Because if there is an injury, there is a
5 breakdown in the blood brain barrier. And there is
6 going to be reaction to the injury with swelling, an
7 influx of water, you're going to have breakdown of
8 the cells. And you'll see water there as well.

9 Q If a pediatric neurologist would
10 opine with CT cells, particularly the deep brain
11 anoxic insult you may very well not see edema, would
12 you defer to a pediatric neuro-radiologist on that
13 issue?

14 A No, I would not defer to a pediatric
15 neuro-radiologist.

16 I would say that it's possible to
17 have a brain injury in an area that is so small and
18 so limited that a CT scan would not pick it up. But
19 I would not defer to say that you would not have
20 edema.

21 Q Well, do you consider yourself to
22 have the same level of expertise and competence as a
23 pediatric neuro-radiologist in interpreting newborn
24 and early child film studies?

1 A I believe that the knowledge base of
2 pediatric neuro-radiologists is different than my
3 knowledge base. And I think that we both bring
4 relevant information to the interpretation of films.

5 Q Did you -- in fact I think I've
6 already asked you this -- just to clarify. You
7 didn't -- you didn't look at these films with anyone
8 else, correct?

9 A Correct.

10 Q All right. When did you first see
11 these films?

12 A I would imagine, judging from when the
13 records were sent to me, probably sometime in
14 February or March of 2001.

15 Q Okay. So I'm ready to move away
16 from the CT films.

17 Other than the absence of edema is
18 there any other support for your opinions for the CT
19 film?

20 A The-- that's the major finding on the CT.

21 Q Okay. I'm ready to move away from
22 the CT films then and go onto the first MRI.

23 A Okay.

24 Q Incidentally, did you bring the films

1 with you today?

2 A Yes.

3 Q What is the date of the first MRI?

4 A It is 8/20/99.

5 Q And you indicated earlier that from
6 your observation you see periventricular
7 leukomalacia on that film; is that your testimony?

8 A Yes, there is single abnormalities that are
9 consistent with periventricular leukomalacia in the
10 periventricular white matter.

11 Q What is your definition of
12 periventricular leukomalacia?

13 A Well, that would be an injury to the white
14 matter. The white matter is the wires of the
15 nervous system that connect one part of the brain to
16 other parts of the brain and the spinal cord. And
17 that would be the area around the ventricles. And
18 that is a damage to that white matter. It is
19 associated with cerebral palsy.

20 Q Is it deep within the brain?

21 A Yes.

22 Q Okay.

23 A Because the ventricles are deep within the
24 brain. And this is the area just around the

1 ventricles.

2 Q Is it your opinion, doctor, that if
3 there was an anoxic or a severe hypoxic insult at a
4 37 or 38-weeker, they would not have injury in that
5 area of the brain?

6 A Yes. It wouldn't show up in this-- in this
7 way.

8 The literature shows that
9 periventricular leukomalacia is an injury that
10 occurs earlier in gestation somewhere from around
11 probably the 27th week to the 34th or 35th week.

12 Q I don't know that you answered my
13 question.

14 MR. BECKER: Miss Reporter, would you
15 read back my question, please.

16 (Court Reporter reads back the
17 following:

18 "QUESTION: Is it your opinion,
19 doctor, that if there was an anoxic or a severe
20 hypoxic insult at at 37 or 38-weeker, they would not
21 have injury in that area of the brain?")

22 A Yes. If there was a severe hypoxic injury
23 you would not see that pattern of injury at that
24 time in gestation.

1 Q So it's your testimony, doctor, that
2 at-- term babies can not have an injury to the
3 thalamus?

4 A I thought we were talking about
5 periventricular leukomalacia.

6 Q Could you hold on one minute,
7 doctor?

8 A Okay.

9 MR. BECKER: Off the record for a
10 second. Be right back.

11 VIDEOGRAPHER: Stand by, please. The
12 time is 10:02 AM. We're going off the video
13 record.

14 (A recess was taken.)

15 MR. BECKER: Back on the record.

16 VIDEOGRAPHER: Stand by please. The
17 time is 10:02 AM. We are on the video record.

18 BY MR. BECKER:

19 Q Doctor, what are the structures --
20 the names of the structures deep within the white
21 matter, what are their names? There are some names
22 of structures within the deep white matter?

23 A In the deep white matter?

24 Q Yes.

1 A Well, you have the internal capsule. You
2 have the corona radiata.

3 Q That's fine. Thanks.

4 Do any others come to mind?

5 A Well, those would be the -- those would be
6 the areas that are white matter that's relevant to
7 this injury. You see the periventricular
8 leukomalacia and the corona radiata.

9 Q Do you see any injury in the basal
10 ganglia, or the thalami?

11 A Yes, there is also injury in the basal
12 ganglia and the thalami.

13 Q What is the-- did the other
14 radiologist call it periventricular leukomalacia who
15 read the films?

16 A You mean the person for the clinical
17 record?

18 Q Yes, sir.

19 A They talked about white matter signal
20 abnormalities.

21 I can -- give me a second. I can
22 find the exact wording.

23 A Okay. This is from the radiology at
24 St. Vincent's Mercy Medical Center for the procedure

1 8/20/99.

2 They say that the -- "there's
3 diffuse signal in the periventricular white matter
4 super- tentorial-- tentorially would suggest a lack
5 of demyelination. And I think they really mean a
6 lack of myelination. And the ventricular system is
7 not enlarged. There's diffuse signal in the
8 peri-ventricular white matter region which could,
9 from the absence of myelination -- and this should
10 be correlated with the patient's gestational age."

11 Q Now, was there any developmental
12 disorder in this child's brain in the utero?

13 A I believe that -- I'm not certain what you
14 mean by "developmental."

15 Q Was there any malformation of the
16 brain structures?

17 A The only thing which could suggest a
18 malformation of brain structures is on the initial
19 neuro-radiology studies they talk about an under
20 opercularization of the brain. What that means is a
21 little bit controversial. And it may mean that
22 there's a mild formation, or it may be a
23 developmental problem. And you do see some of
24 that--

1 Q All right.

2 A -- on the earlier studies.

3 Q -- MRI show that the development in
4 that area has completed?

5 A Yeah. I don't think that that's nearly so
6 prominent on the subsequent areas, on the subsequent
7 MRI's.

8 Q Okay. So essentially no
9 malformation?

10 A Nothing that one can be definitive about.

11 Q Well, is there anything that you
12 have an opinion in terms of probability that there
13 was a brain malformation in this child in utero?

14 A No, I don't have any opinion that there was
15 a brain malformation.

16 Q Okay. Now, can PVL be detected in
17 an adult or-- strike that-- in a full term-- strike
18 that.

19 Q Let's start again.

20 Can PVL come about via an insult at
21 term in a baby?

22 A No.

23 Q Are you familiar with any literature
24 that speaks to that issue?

1 A Yes. And PVL is a pattern of injury which
2 is a -- seen in premature, or occurs in premature
3 babies.

4 Q Here's my question, doctor.

5 Are you familiar with any literature
6 that indicates that PVL can and does occur from an
7 insult at term? Are you familiar with it, yes; if
8 you're not familiar with it the answer would be no.

9 A Well, I think that you can have injuries to
10 white matter at that time. But what you're talking
11 about really is, is a pattern of injury. And I
12 don't know of any literature which says that you
13 have that pattern of injury, or that says that you
14 have that differential susceptibility to injury in
15 that area of the brain at term.

16 Q Well, when you say "pattern," maybe
17 I'm not following what you mean by "pattern."

18 What do you mean by a pattern of
19 injury here?

20 A Okay. By what I mean by a pattern of
21 injury is there's different parts of the brain that
22 have a differential susceptibility injury from
23 hypoxia or ischemia, or a combination of hypoxia and
24 ischemia at different times of gestation.

1 So that in the premature, they're
2 much more susceptible to injury in the
3 periventricular white matter than full-term babies.

4 So if you have an injury that is
5 from hypoxia or ischemia that would affect the white
6 matter in a full-term baby, then you would need to
7 see injury in other structures as well. So you have
8 to look at the entire pattern of the brain injury.

9 Q Well, when you look at the most
10 recent MRI, where is the significance -- what part
11 of the brain has the most significant damage?

12 A Okay. There are -- there's damage in the
13 basal ganglia. There's damage particularly in the
14 palatum. And there's also damage in the thalamus.
15 And there's also some white matter signal problems
16 suggestive of periventricular leukomalacia.

17 Q So based on your interpretation,
18 where does the significant brain damage lie of those
19 five or six areas you just highlighted for me?

20 A Well, I think it lies in all of those
21 areas.

22 Q Is there any one more definitive
23 than the other, or significant than the other?

24 A No. But I think that the pattern is

1 suggestive that this is an injury that occurred
2 probably around 34 weeks or so.

3 Q Okay. And I just for purposes of my
4 expert, my pediatric neuro-radiologist, I need to
5 know each and every basis for that conclusion?

6 A Okay. The basis for that conclusion is
7 that you're seeing white matter problems that would
8 be consistent with periventricular leukomalacia.

9 Secondly, you're seeing evidence of
10 lesions in the palatum in the basal ganglia which
11 tends to be more susceptible earlier during
12 gestation than full-term. And your--

13 Q What's the basis for that opinion?

14 A It's basically clinical experience from
15 seeing a lot-- seeing MRI scans on a lot of babies
16 and following these children.

17 Q Specifically what injury can you
18 admit that supports that conclusion?

19 A Yeah. There is literature and suggestions
20 in the literature that that's the case. I don't
21 know that everybody subscribes to it. But in my
22 experience there is certainly tendency toward that.
23 And you also see thalamic injury and you can see
24 volumic injury both pre-term and full-term.

1 Q Are you familiar with Barkovich's
2 textbook on pediatric neuro-radiology?

3 A Yes.

4 Q Is it authoritative?

5 A What do you mean by "authoritative"?

6 Q Is it reliable and helpful to
7 someone like you, a neurologist?

8 A Um, there's useful information in there. I
9 don't know that everything in there is correct, or I
10 would agree with everything. You know, it's a
11 textbook.

12 Q Well, isn't it the leading textbook
13 in pediatric neuro-radiology?

14 MR. MAGUIRE: Objection, Mr. Becker.
15 You got your answer. Move on.

16 BY MR. BECKER:

17 Q Answer my question, doctor.

18 To your knowledge is it the leading
19 textbook in pediatric neuro-radiology or would you
20 defer to a pediatric neuro-radiologist on that
21 issue?

22 A It's a widely recognized textbook, but it
23 is a textbook.

24 Q Right. Do you have it within your

1 library?

2 A Yes, I have it. I don't have it in my
3 personal library, but I certainly have it available
4 to me.

5 Q Well, in your personal library, do
6 you have any pediatric neuro-radiology textbook?

7 A I have some older textbooks on CT scans in
8 my personal library.

9 Q What are the names of those?

10 A I think there is something by Ruth Ramsey,
11 many, many years old.

12 Q All right. We talked about -- I
13 want to make sure we covered each and every basis
14 for your opinions here on the PVL. We'll talk about
15 the clinical situation in a moment.

16 But as to the films, specific
17 timing, you told me about the thalami and the basal
18 ganglia. Anything else?

19 A No. It's basically the fact that you have
20 the periventricular white matter abnormalities. And
21 then you have this differential pattern of injury in
22 the basal ganglia, and the thalamus which in my
23 experience would place this injury before 37 weeks.

24 Q Doctor, in all fairness, don't you

1 think a pediatric neuro-radiologist would be in a
2 better position to comment on what these films
3 actually show and the significance of those than
4 you?

5 MR. MAGUIRE: I object. He's
6 already answered the question that he would not.

7 Go ahead.

8 MR. BECKER: Tom, if you start
9 answering questions for him one more time-- I'm
10 tired of this shit.

11 MR. MAGUIRE: Now, listen, Mr.
12 Becker, you're-- you don't like his answers--

13 MR. BECKER:-- It's going to be
14 over. And you're going to have to make another trip
15 to Philadelphia. I will let you-- I gave you a lot
16 of leeway at yesterday's deposition. I rushed
17 through yesterday's deposition for you to
18 accommodate you. I'm not going to tolerate.

19 MR. MAGUIRE: I'm going to put the
20 objection on the record because he's--

21 MR. BECKER: When you hear the
22 objection, don't tell the doctor how to answer, or
23 I'm going to seek sanctions against you.

24 MR. MAGUIRE: He's already answered

1 the question. That's the basis for my objection.

2 Now go ahead and ask your question.

3 MR. BECKER: Don't say what the
4 answer is, or what you think it should be, or what
5 you thought he said.

6 MR. MAGUIRE: Well, you're not going
7 to keep repeating the same question. That's
8 improper. Go ahead.

9 MR. BECKER: You got your objection.

10 MR. MAGUIRE: All right. Go on.

11 MR. BECKER: I am not going to
12 tolerate it anymore, Tom.

13 MR. MAGUIRE: Go on.

14 MR. BECKER: You're on notice.

15 MR. MAGUIRE: Okay.

16 MR. BECKER: Let's go back to my
17 question which I've long forgotten before I lost my
18 temper.

19 Ms. Reporter, can you find that
20 question. I think it had to do with deferring in
21 all fairness.

22 (Court Reporter reads back the
23 following:

24 "QUESTION: Doctor, in all fairness,

1 don't you think a pediatric neuro-radiologist would
2 be in a better position to comment on what these
3 films actually show and the significance of those
4 than you?"

5 A No, I do not. And the reason is, is that
6 neuro-radiologists are not in the position of
7 putting all of the clinical information together.
8 That's not part of their practice.

9 Q Okay. Doctor, what is it about the
10 clinical information that supports your opinion?

11 A Okay. The clinical information that
12 supports my opinion is that the severity of the
13 brain injury, or the severity of the insult that the
14 infant had at or around the time of birth is not
15 sufficient to cause this degree, or a severe brain
16 injury.

17 Q What in the world is your basis for
18 that opinion?

19 A Okay. The basis for that opinion is No. 1,
20 the Apgar scores on this case were at 10 minutes.
21 The Apgar score was 4.

22 Q You're not suggesting that the
23 criteria for 163 is the basis for your opinion, are
24 you?

1 A I'm sorry, the criteria for what?

2 Q A.C.O.G. 163?

3 A Well, the A.C.O.G. 163 criteria were also
4 adapted by the American Academy of Pediatrics. And
5 those criteria are scientifically based. And the --

6 Q Okay.

7 A If I can go through my opinions, there are
8 some aspects of the A.C.O.G., criteria which are
9 relevant.

10 Q The A.C.O.G. 163 criteria, what is
11 missing, the 10-minute Apgar is 4 instead of 3?

12 A Correct.

13 Q Anything else, sir?

14 A Yes, there is not evidence of other tissue
15 damage.

16 Throughout the time that the baby
17 was at St. Vincent's, there was no elevation in
18 liver enzymes. There was normal BUN, normal
19 creatine. There was no blood in the urine. There
20 was good kidney output from Day 1. And we don't
21 really have the evidence of other organ damage
22 here.

23 Q You're saying multi-system organ
24 injury?

1 A Correct.

2 Q All right. Now, are you aware of
3 any literature that says -- stands for the
4 proposition that when there is a sudden catastrophic
5 insult, such as a ruptured uterus, there very well
6 may not be multi-system organ injury.

7 Are you aware of any literature that
8 stands for that proposition?

9 A Yes. There is some literature that stands
10 for that proposition. Nonetheless if you look at
11 susceptibilities of different organs, the brain is
12 metabolically not more susceptible than some of
13 these other organs are at term.

14 And there is literature that
15 suggests that the best indicator of brain injury is
16 renal output. There was good kidney output. And
17 there was no blood in the urine.

18 Now, there are other things that
19 also suggests that the severity of the injury was
20 not such that it should cause a devastating
21 neurological injury. And those other things include
22 that there was an elevation of nucleated red blood
23 cells. That was only one time, and was not
24 sustained. And there was also the EEG --

1 Q How would you suspect it to be
2 sustained?

3 A I'm sorry. What?

4 Q Why would you suspect the NRBC's to
5 be sustained?

6 A Because if you have a severe injury, then
7 they're going to be more likely to be sustained.

8 Q What was the hour that the NRBC's
9 were withdrawn or sample taken?

10 A It was at the first St. Vincent's-- when
11 the child arrived at St. Vincent's. And I can get
12 you the time right here. It was at 9:45 on 7/22.
13 That would be 9:45 AM.

14 Q When did the NRBC sample begin?

15 A On 7/23 at 4:00 AM. And there were none at
16 that time.

17 Q That was almost a day later?

18 A Correct.

19 Q And what would you have suspected
20 that to be?

21 A Generally if you have a severe brain
22 injury, then you're going to be more likely to have
23 continued NRBC's.

24 Q Above what level?

1 A Well, they should -- I think that the level
2 a day after birth is not necessarily established.
3 But in general you at least see some.

4 Q All right. So we have the 10-minute
5 Apgar, the NRBC's, the multi-system organ.

6 A And then you also have the EEG's. The
7 initial EEG was a burs suppression pattern. The
8 subsequent EEG's were not burs suppression, and
9 although not normal, got much, much better very
10 quickly.

11 There is evidence from the ECMO
12 literature that a single burs suppression EEG is not
13 indicative of an increased chance of brain injury.
14 That you need to have two burs suppression EEG's to
15 have a significantly increased chance of significant
16 brain injury.

17 You have the blood gas data. And
18 although the initial ph was 6, the baby was very
19 rapidly resuscitated, and the baby was easily
20 weaned. And that also goes against a severity of
21 injury that would be likely to cause a severe brain
22 damage.

23 There is evidence in the literature
24 that suggests, just because you do have the

1 acidosis, that is not sufficient to say that there
2 certainly is going to be a brain injury at that
3 time. And the majority of babies who have a ph of
4 less than 7, actually ends up at 2 years of age or
5 so being and looking normal.

6 So based on all of those things, you
7 do not have the medical-- the clinical indication to
8 say yes, definitely that there is a severity of
9 injury to cause a severe brain damage at this time.
10 And then when you put it with some of the imaging,
11 and you see a pattern of imaging, and a pattern of
12 injury which looks like the injury occurred more
13 like 34 weeks or 35 weeks, that is what the basis of
14 my opinion is.

15 Q Do you have an opinion whether or
16 not this child demonstrated HIE in a newborn period
17 and recovered consistent with an HIE pattern?

18 A Yes. The child wasn't cephalopathic in the
19 newborn period and the child recovered.

20 Q Consistent with HIE?

21 A Yeah.

22 Q Just for the record, HIE means what?

23 A Hypoxic ischemic encephalopathy.

24 Q Okay. What was the hypoxic-- what

1 was the cause of that hypoxic ischemic
2 encephalopathy?

3 A I believe there was an abruption.

4 Q Was the abruption-- matter-- did it
5 proceed or did it occur concurrently, or
6 subsequently to the rupture if you have an opinion?

7 A That's really out of my area of expertise.

8 Q Has there been any effort to modify
9 163 A.C.O.G., to your knowledge?

10 A I'm sure there has.

11 Q Do you know what the basis of the
12 reasons and the steps to modify are?

13 A I can't speak to that in detail. But I
14 think it's that not everybody agrees with all of the
15 criteria.

16 And the-- and part of the problem is
17 that you do have a certain number of babies who have
18 injuries that are difficult to explain.

19 Q Doctor, are you familiar with any
20 studies by perinatologists on diebacks and ruptured
21 uterus and bradycardia in causing brain injury?

22 A Yes.

23 Q What is the essence of that
24 literature stands for? What's the proposition of

1 that literature?

2 A Well, the essence of that literature is
3 that basically abruptions are bad for babies. And
4 you need to act in a timely manner.

5 And there are criteria by the
6 American College of Obstetrics and Gynecology as to
7 how quickly you need to get a baby out.

8 Q What is your understanding of that
9 criteria?

10 A My understanding is that you need to be
11 able to do a C. Section within 30 minutes of when a
12 stat C. Section is called.

13 Q Or sooner?

14 A Or sooner, yeah.

15 Q And sooner has to do with the
16 capability of that particular institution; for
17 example, whether they have in-house anesthesia, et
18 cetera?

19 MR. MAGUIRE: I'm going to object to
20 this, Mr. Becker.

21 MR. BECKER: Okay. You can object.

22 BY MR. BECKER:

23 Q Go ahead, doctor, you can answer.

24 A I don't know in detail what the basis of

1 those crit-- deciding what criteria are appropriate
2 to what institution.

3 I do know that it is 30 minutes to
4 get a C. Section accomplished after a stat C.
5 Section is called.

6 Q Was there any evidence of-- back to
7 the multi-system organ injury, is there any evidence
8 of lung injury?

9 A I don't think there is any evidence of lung
10 injury.

11 Q But excuse me--?

12 A Basically by the X-ray and by the fact that
13 the child weaned very quickly.

14 Q And you don't find any evidence of
15 kidney, or liver injury?

16 A Correct.

17 Q Do you have occasion to consult with
18 pediatric neuro-radiologists in Philadelphia?

19 A Yes, on occasion.

20 Q Who do you consult with?

21 A Generally, I consult with radiologists and
22 neuro-radiologists in our own institution, who do
23 both adult and pediatric, and in particular, Dr.
24 Boyco. In Philadelphia Dr. Zimmerman at Children's

1 Hospital and Dr. Farber is at St. Christopher's.

2 I've consulted with Dr. Zimmerman on
3 occasion.

4 Q Okay. And is he authoritative?

5 A Dr. Zimmerman has useful knowledge. I
6 don't find his opinions to always be correct.

7 Q Okay. How about Dr. Farber, is he
8 authoritative?

9 A I would have to say the same thing about
10 Dr. Farber.

11 Q Now, going back to the films -- and
12 feel free to look at them if you have a box. Do you
13 have a view box in the room?

14 A No, we do not.

15 Q Was there any difference in the
16 suggestion white matter signal abnormalities between
17 the first and second MRI?

18 A I'm sorry. The court reporter didn't hear
19 the question.

20 Q Comparing the first and second MRI
21 is there any difference between the white matter
22 signal abnormalities?

23 A Well, there-- there's evidence of
24 abnormality on both the first and second MRI scans.

1 There has been some maturation, and some
2 myelinization of the white matter. But there is
3 still abnormality on both studies.

4 Q Okay. And in lay terms, I want to
5 understand what you perceived to be the difference
6 between the two?

7 A Well, there is some development that has
8 occurred between the two studies. Babies are not
9 completely myelinated. The nerves in their brain do
10 not have all the insulation around them that they
11 will develop as they get older.

12 What's happened here is, is you have
13 an insult to a particular area of brain that is
14 susceptible at 34 weeks. Those nerves become
15 damaged. And then they will continue to develop,
16 but there is already damage there that is not
17 reparable.

18 Q All right. Again, just for the
19 record, which area of white matter?

20 A This would be in the corona radiata coming
21 down into the internal capsule.

22 Q And how does it appear on the second
23 MRI, that is the corona radiata going into the
24 internal capsule?

1 A It continues to be abnormal.

2 Q But what specifically as to the
3 second MRI is abnormal?

4 A There's an abnormal signal in that area
5 suggesting a problem with myelinization.

6 Q What else could that abnormal signal
7 suggest besides the problem with myelinization?

8 A I don't know what the abnormal signal would
9 suggest other than a problem with myelinization.

10 I think the other thing that you see
11 in the second MRI scan, which is a little bit more
12 prominent than in the first MRI scan, is is that
13 ventricles appear to be a little bit prominent, kind
14 of borderline large.

15 Q That's not surprising, is it?

16 A Not with periventricular leukomalacia
17 because there's going to be substance loss. And
18 there's generally going to be larger ventricles with
19 the periventricular leukomalacia.

20 Q Are you telling me that if a baby
21 has an insult at full term, a hypoxic ischemic
22 injury at full term, and you take an MRI a year or
23 two years later, you would be surprised to see an
24 enlargement of the ventricle?

1 A It depends on the extent of the -- of the
2 insult in the areas of the brain that are damaged.

3 You can also see substance loss in
4 enlarged ventricles a year later with an insult at
5 full term.

6 But what I'm saying is, is that you
7 have periventricular leukomalacia in the prominence
8 of the ventricles six months later is consistent
9 with having had some periventricular leukomalacia.

10 Q Is it-- is there anything
11 inconsistent about it?

12 A I'm sorry. I don't understand the
13 question.

14 Q Is there anything inconsistent about
15 him having periventricular leukomalacia?

16 A No.

17 Q Can you give me a sense as to how
18 often you read films?

19 A Yes. I generally look at films every--
20 every Tuesday, every Thursday, every Friday, and
21 sometimes on Mondays.

22 Q Well, I mean how often during the
23 day, those days, would you be looking at films?

24 A Well, when there are films on my patients

1 that are relevant, then I will look at them.

2 Q Right.

3 A And we have a neuro-radiology conference
4 every Friday morning that lasts an hour to an hour
5 and a half that I attempt.

6 Q I'm assuming that's done by the
7 neuro-radiologist?

8 A That's done by the neuro-radiologist, the
9 neurologist, and the neurosurgeons.

10 Q And as to who is interpreting, is it
11 the neuro-radiologist that has the final input as to
12 what the films actually show?

13 A No. I think that it is a conversation,
14 because we all bring different backgrounds, and
15 different information to the-- to the forum.

16 Q Okay. Would you say that you're
17 actually looking at films about 1/20th of your
18 actual clinical time per week actually looking at
19 films?

20 A Something like that, yeah, or a little bit
21 less.

22 Q All right. Was this child
23 asphyxiated at birth?

24 A Yes, to a degree.

1 Q Would you consider it mild asphyxia
2 then?

3 A I would consider it to be moderate.

4 Q All right. And can moderate
5 asphyxia cause brain damage?

6 A It -- it can, but I don't think it did in
7 this case.

8 Q Okay. Do you have an opinion in
9 terms of probability whether the ruptured uterus and
10 concomitant of rupture of the placenta cause any
11 damage whatsoever in this case, brain damage?

12 A Well, I think that what you have here is a
13 pattern of injury that suggests something that
14 occurred more like the 34th or 35th week.

15 Certainly the abruption of the
16 uterus did not enhance or help the baby, but the
17 extent to which it made the baby's brain injuries
18 worse or more severe, is necessarily, you know,
19 uncertain, and very speculative if it did at all.

20 Q Okay. Well, that's my question. It
21 was a long answer. But here's my question.

22 Do you have an opinion, in terms of
23 probability, whether or not this child sustained any
24 permanent brain damage from the ruptured uterus and

1 the placental abruption at or around the time of
2 birth?

3 A My opinion is that the child probably did
4 not.

5 More likely than not -- the child
6 more likely than not did not suffer brain damage at
7 -- permanent brain damage at or around the time of
8 birth.

9 Q So this child's significant brain
10 damage occurred at about the 34th week?

11 A Yes.

12 Q Would you expect the child was
13 significantly brain damaged at the 34th week to be
14 born with evidence of microcephaly?

15 A Not necessarily.

16 Q How about more likely than not?

17 A No. Not if it's at the 34th week, because
18 you don't have enough brain growth say between the
19 34th and 37th week.

20 Q How about the thirty-third week?

21 A Well, at some point if you have significant
22 brain injury, and you may or may not have problems
23 with microcephaly, but you get into a lot of factors
24 that affect head size.

1 Q All right. Doctor, let's go back
2 and--

3 MR. MAGUIRE: Just a moment

4 Q Almost 38 weeks--

5 MR. MAGUIRE: Mr. Becker, you cut him
6 off. I don't think his answer was completed.

7 Q I'm sorry, doctor. I didn't mean to
8 cut you off.

9 A Okay. I think you have a lot of things
10 here that will affect head size, including the
11 amount of fluid in the brain, as well as the amount
12 of brain tissue, itself.

13 Q Okay. Are you done?

14 A Yes.

15 Q Do we agree that this child was
16 delivered almost at 38 weeks?

17 A Somewhere in the 37th week.

18 Q Okay. And what week, if there was
19 brain insult, whether it's 28, 29, 30, 31, 32, would
20 you expect there to be some impact on the head size
21 at birth if we're assuming a significant brain
22 injury?

23 A I would expect say at the 30th week.

24 Q All right. And what's the basis of

1 that opinion?

2 A It's basically, you know, a guess, and an
3 understanding of how long it takes for the growing
4 brain to manifest to the point where you're going to
5 see something that you would recognize as being
6 clinically significant.

7 MR. BECKER: All right. I got to
8 take a break to get some water. Be right back.
9 Could we go off the record for about five minutes.
10 Five minutes.

11 MR. MAGUIRE: Michael, are you pretty
12 much done?

13 MR. BECKER: I don't know, Tom. I
14 have to look at my notes. Assuming you covered a
15 brief majority of this.

16 MR. MAGUIRE: Because I'm getting to
17 that point.

18 MR. BECKER: Well, we can finish the
19 deposition later if you have to catch a plane.

20 MR. MAGUIRE: Okay.

21 VIDEOGRAPHER: Stand by, please. The
22 time is 10:42 AM. We're going off the video
23 record.

24 (A recess is taken.)

1 VIDEOPHOTOGRAPHER: Stand by please. The
2 time is 10:47 AM. We are on the video record.

3 BY MR. BECKER: (Continued)

4 Q Doctor, it's your opinion that this
5 child sustained brain damage between what
6 gestational age; what week?

7 A I think it's probably around the 34th --
8 35th week.

9 Q And what's the basis for that
10 conclusion: 34th or 35th versus 29th and 30th?

11 A The reason for that is, is that you are
12 showing periventricular leukomalacia. You are
13 seeing palatum lesions, and you're also seeing some
14 thalamic lesions. And it's basically-- you know
15 it's got to be before the 35th week to have the
16 white matter involved to this extent. And generally
17 if you're seeing the thalamus this involved, my
18 experience is that it tends to be a little bit
19 earlier, and also the palatum.

20 Q Okay. But why the 34 -- 35 versus
21 29 or 30?

22 A Basically because you're beginning to see
23 the palatum and the basal, and the thalamus
24 involved. And that tends to be, I think, a little

1 bit more -- little bit later than what you see with
2 the very early periventricular leukomalacia.

3 Could it be the thirty-third week?

4 Yeah, I think it could be the thirty-third week.

5 It's hard to say exactly. But you know, people will
6 say that you stopped getting periventricular
7 leukomalacia between the 32nd and 35th week.

8 So I think you need to begin to
9 put-- I think you need to put it before the 35th
10 week.

11 Q Just so the record is clear, you
12 don't know the etiology of the--

13 A I don't know.

14 I mean could it be hypoxic
15 ischemic? Yes. Could it be infectious? Yes.

16 But I can't from the pattern of
17 injury, or from the records I reviewed say what
18 exactly the etiology of that injury is.

19 Q What caused the mechanism of injury
20 to stop?

21 A I don't know.

22 Q If there was hypoxic, would you have
23 expected it to continue?

24 A Sometimes those things stop, and -- and the

1 fetal placental unit can repair itself.

2 Q If it was infection, would you
3 expect it to continue?

4 A It very frequently stops, because there's
5 an immune system that fights and kills off the
6 infection.

7 Q Now, it's your opinion that the
8 child cerebral palsy came about from an insult of
9 some type at 34 to 35 weeks; is that fair?

10 A Correct.

11 Q What about the child's cognitive
12 impairment at insult?

13 A I think that insult occurred at the same
14 time. I think--

15 Q What's the basis of that opinion?

16 A And the basis of that is that you have the
17 thalamic injuries and you have the palatal injuries.

18 Q Okay.

19 A And you have the peri-ventricular
20 leukomalacia.

21 Q Well is PVL more associated with
22 cerebral palsy than with cognitive impairment?

23 A It is more so associated with cerebral
24 palsy, but if you have cerebral palsy, you can also

1 have cognitive impairment.

2 Q Well, I guess that's true.

3 Is it likely that this child's
4 cognitive impairment is due to the thalamic basal
5 ganglia-- and you-- I think you used the word that
6 started with a P?

7 A Periventricular-- palatal? That's part of
8 the basal ganglia.

9 Q Is it likely that that's the unit
10 that's caused this child cognitive impairment?

11 A Along with the PVL, yes.

12 Q Do you have any understanding as to
13 whether or not there were any placental
14 abnormalities detected?

15 A I have no knowledge of that one way or
16 another.

17 Q Would you've expected if there-- if
18 this-- well would you have expected there to be
19 evidence?

20 A Well, let me put it this way. Let me put
21 it this way.

22 My understanding is that there is
23 evidence of the abruption.

24 Q Okay.

1 A Okay. And that would be a placental
2 abnormality.

3 Q Does that occur at the time of
4 birth?

5 A But that placental abnormality occurred at
6 the time of birth.

7 Q Okay. We talked about PVL on the
8 first MRI report.

9 Is PVL referenced or implied in the
10 second MRI report of the radiologist?

11 A I would have to--

12 Q Feel free to look at it.

13 A -- look to see.

14 No, I'm not seeing the radiologist
15 commenting on PVL on the second report.

16 Q Okay. Are you done?

17 A Yes. I don't --

18 Q Have you written on the subject of
19 nucleus red blood cells?

20 A No, I have not written on that subject.

21 Q Have you written on the subject of
22 multi-organ injury--

23 A No.

24 Q -- secondary to a perinatal insult?

1 A No, I have not.

2 Q Have you done research on either of
3 the nucleus red blood cells or multi-organ injury
4 secondary to perinatal insult?

5 A No original research.

6 Q Well, that implies you did some
7 research?

8 A That implies I keep up with the literature
9 in those areas.

10 Q Okay. All right.

11 The EEG you said is -- you said this
12 child is easily resuscitated?

13 A Correct.

14 Q What do you mean by that?

15 A By that I mean that -- that the child's ph
16 was fairly rapidly corrected.

17 Q Well, what intervention did you
18 utilize to correct the child's acid level?

19 A They ventilated the child. They gave the
20 child epinephrine to start-- or to enhance the heart
21 function. And they also gave four doses of
22 bicarbonate.

23 Q Okay. And were those appropriate?

24 A Yes.

1 Q And what would--

2 A And--

3 Q Trying to get a sense of--

4 A And what happened-- I believe it was with
5 the-- maybe the third blood gas, you actually saw
6 there was some dip in the ph as the blood
7 circulation reestablished itself. But that dip was
8 only transient.

9 Q Right.

10 A Often times if you have a severe injury
11 what happens is you see the ph go down and stay
12 even, even with repeated doses of bicarbonate.

13 Q How long should the ph have been
14 down?

15 A What do you mean by "should"?

16 Q What would you have expected if
17 there was a severe injury?

18 A If there's a severe injury then often times
19 what happens is you can give several doses of
20 bicarb., without a positive response in the ph
21 because there is so much tissue buffering of the
22 acid. You don't really--

23 Q You don't usually participate in
24 neonatal resuscitation?

1 A I don't usually at this point. I have in
2 the past.

3 Q When was the last time you engaged
4 in a neonatal resuscitation?

5 A Probably about 12 years ago.

6 Q What's your authority for the
7 proposition that this resuscitation was unusually
8 easy, or that -- or state it another way, the child
9 was responsive?

10 A It's because I look at resuscitations all
11 the time in my daily practice.

12 Q You what?

13 A I look at resuscitation records all the
14 time in my daily practice.

15 Q Of newborns?

16 A Yes.

17 Q So that's the basis-- how many
18 newborns do you see a month that are resuscitated?

19 A I see a number of children who are
20 resuscitated as newborns every month.

21 Q Do you see them in the first month?

22 A Yes. We cover intensive care nurseries.

23 Q Can you give me an idea how many
24 resuscitated newborns reports you see?

1 A Well, I think most of the newborns-- a
2 large number of the newborns I see are
3 resuscitated. And I see several every month.
4 Three.

5 Q All right.

6 A Four.

7 Q I just want to understand.

8 How long would you-- if there was a
9 significant insult brain damage, how long would you
10 have expected this ph to remain abnormal,
11 significantly abnormal?

12 A Well, I think it's hard to put a specific
13 number on that.

14 But my point was is that with each
15 of the bicarbs, with the exception of one, is you
16 got the sequential blood gases, the ph was always
17 getting better. The one where it did not get better
18 it was really very similar to the one before it.
19 Often times--

20 Q -- with resustation to get the ph
21 better? Isn't that your goal?

22 A Right. That's obviously what you hope
23 for.

24 But in difficult resuscitations is

1 you reestablish blood flow to tissues that had been
2 hypoxic. Then you can actually get a decrease in
3 your ph. And you're not really seeing that in this
4 case to any -- to any great extent.

5 Q Well, does that always occur, that
6 there is a worsening of ph after resuscitation, or
7 does that occur sometime?

8 A That occurs frequently in cases where there
9 is severe brain damage injury.

10 Q Most of the times? 50 percent of
11 the time?

12 A I don't have an exact percentage. But it's
13 something that occurs frequently. The fact that you
14 do not see it is what my point was in saying that
15 the child was easily resuscitated.

16 Q That's what you meant by-- was it
17 specifically the fact that the ph didn't get worse--
18 that's what you mean-- by the child was easily
19 resuscitated?

20 A That's right. And as you had perfusion--
21 as the perfusion of the child got better, you did
22 not see an increase in the acid load in the blood.

23 Q Well, what time did they start
24 giving bicarb?

1 A They started giving bicarb as soon as they
2 got the umbilical lining. They gave saline and then
3 they gave bicarb.

4 Q Is bicarb make the acid level--
5 improve the acid level?

6 A Right. The bicarb will improve the acid
7 level.

8 Q Are you taking that into
9 consideration the fact that they gave bicarb as to
10 whether or not you would expect ph drop?

11 A Yes, that's-- that's-- that's-- that's what
12 people do in resuscitations.

13 Q Well, if you expect to see ph drop,
14 and know that after resuscitation but know that this
15 child has already received bicarb, wouldn't the
16 continued same range tell you that but for the
17 bicarb administration, that second gas would be
18 lower?

19 A That's true. But frequently even with
20 bicarb the second or third gas is lower because you
21 are reestablishing perfusion to asphyxiated
22 tissues. Acid is coming out of those tissues and
23 lowering the ph. And that is something that you do
24 not see here.

1 Q Going back to the Apgar score at 10
2 minutes. Do you appreciate that there's not a whole
3 lot of difference between a 4 and 3 at a ten-minute
4 Apgar?

5 A There's a difference of one, and the
6 scientific basis for the Apgar score is based on the
7 perinatal collaborative study which showed that you
8 did not have a significant increase in a severe
9 neurological impairment unless you had Apgar scores
10 of three or less at the 10-minute Apgar.

11 And it's important to note that even
12 the majority of the children who had Apgar's at
13 three or less at 2 years of age were neurologically
14 normal.

15 Q Doctor, if you had the size this
16 case and hear that a child had a ruptured uterus
17 anywhere from 15 to 25 minutes ^{3200y cad} pre-cardia, sudden
18 abruption, would you expect the child to have
19 serious brain damage?

20 A I think it's uncertain.

21 Frequently children who have a-- who
22 suffer from abruptions do have brain damage, but not
23 all of them do.

24 Q Right. Well, are you familiar with

1 the literature by an obstetrician/gynecologist by
2 the name of Paul from Los Angeles?

3 A Yes.

4 Q Okay. Do you agree with his
5 writings on that subject?

6 A In regards to what specifically?

7 Q With -- with rupture of the uterus
8 -- complete rupture of the uterus. You have
9 anywhere from 18 minutes after the complete rupture
10 of the uterus, 18 minutes of bradycardia before you
11 will get a likely irreversible brain damage?

12 A I think that if you have complete rupture
13 of that, and a sustained bradycardia for that period
14 of time, then you are much more likely to have brain
15 damage, yes.

16 VIDEOGRAPHER: Counselor, on the
17 telephone. You have 10 minutes left on the first
18 videotape, sir.

19 MR. BECKER: Go ahead and switch it.

20 VIDEOGRAPHER: Stand by please.

21 MR. BECKER: I've got to go in 10
22 minutes, Michael.

23 VIDEOGRAPHER: This concludes Video
24 Tape No. 1. The time is 11:05 AM. We're going off

1 the video record.

2 Stand by please. This begins Video
3 Tape No. 2. The time is 11:06 AM. We are on the
4 video record.

5 MR. BECKER: Miss Reporter, would you
6 read my last question.

7 (Court reporter reads back the
8 following:

9 "QUESTION: With a ruptured uterus, a
10 complete ruptured uterus you have anywhere from 18
11 minutes after the complete rupture of the uterus, 18
12 minutes of bradycardia before you will get a likely
13 irreversible brain damage?"

14 MR. BECKER: And did he answer that
15 question. Would you read me that answer back.

16 A Excuse me. I thought I did. But I will
17 answer it again.

18 The answer is if you have a
19 sustained bradycardia for that long, and the
20 bradycardia is severe, and if you have a complete
21 rupture of the uterus, and a complete abruption of
22 the placenta for that long, yes, I believe that is
23 sufficient to give irreversible brain damage.

24 Q What do you mean by "severe

1 bradycardia"?

2 A I would say probably below 60.

3 Q Was there severe bradycardia in this
4 case?

5 A I don't believe that it was sustained.

6 Q Why do you say that?

7 A Because I don't believe that the records
8 show that. I don't believe that you had heart rates
9 below 60 that whole 18 minutes.

10 Q Well, the records demonstrate a
11 heart rate below 80?

12 A At times certainly, yes.

13 Q Do you have an opinion whether or
14 not this child had a heart rate above 80 at any time
15 after 4:00?

16 A No, I don't because that would be getting
17 into the obstetrical area of expertise.

18 Q All right. We were talking about
19 Apgars.

20 Would you agree with me that Apgar
21 scoring is subjective?

22 A There are criteria that are used to give
23 Apgars.

24 Q So you feel that it's subjective or

1 objective?

2 A I wouldn't say it's completely devoid of
3 subjectivity, but there are objective criteria
4 there.

5 Q You said that there was a relative
6 to--

7 A And in one of the areas that is least
8 objective, in terms of the Apgar scores is the heart
9 rate. In terms of tissue injury, that may be one of
10 the more important issues with Apgar scores. And
11 the heart rate at 10 minutes was 2.

12 Q Doctor, if a -- hypothetically,
13 assuming there is no PVL in this case, would that
14 cause you to state, more likely than not, that this
15 child sustained some brain damage from the events of
16 the ruptured uterus and abruption at or around the
17 time of birth?

18 A Yeah. If you take away the PVL, that does
19 not change the opinion, because the opinion is also
20 based on the clinical data around and at the time of
21 birth. And it's also based upon the relative
22 involvement of the basal ganglia, the palatum and
23 the thalamus which puts the injury a bit earlier in
24 my experience.

1 Q Would there be any support -- would
2 you expect to find any support in Barkovich's text
3 on the fact that the the injury to the basal ganglia
4 and thalamus generally occurs earlier than-- did you
5 say the 34th week?

6 A Well, I said the 35th week, or earlier.

7 Q 35th week or earlier?

8 A Basically, I'm saying that due to the
9 relative involvement of the palatum compared to the
10 thalamus that to my mind tends to be earlier than 37
11 and six-seventh weeks.

12 Q I'm sorry, doctor. You cut off on
13 me. Repeat that please.

14 A I'm saying that based on the relative
15 involvement of the different parts of the basal
16 ganglia and the thalamus, in my experience, that
17 puts it earlier than the 37 and six-seventh weeks.

18 Now, I think that, you know, you can
19 look at different textbooks, and different people
20 subscribe to different parts of this. And I think
21 there's a certain amount of controversy about that.
22 But that's what my experience is. And there is some
23 literature out there that suggests that.

24 Q Well, what's the controversy?

1 A Well, the controversy is that not everyone
2 believes that you can get the deep nuclear problems
3 without cortical problems later on. And whether or
4 not, you know, the whole idea that you have a basal
5 ganglia injury and a thalamic injury without
6 cortical injury is helpful for timing or not.

7 But there is literature out there
8 that suggests if you have palatal injury that that's
9 more prominent in newborns-- in prematures. That if
10 you're getting more involved with the caudate that
11 that tends to be more prominent in full terms. And
12 it's been my experience that as you get more caudate
13 abnormalities you tend to get less thalamic
14 abnormalities.

15 Q Is there any type of symmetrical
16 appearance of the brain injury in the basal ganglia?

17 A The basal ganglia are affected on both
18 sides, yes.

19 Q Is it symmetrical?

20 A Relatively, yes.

21 Q Would you expect to see a
22 symmetrical injury if that injury was caused by
23 infection?

24 A It -- it depends on what the impact of the

1 infection was to other organs: Heart, and the
2 placental fetal unit. If it was an infection of the
3 placental fetal unit, rather than of the brain,
4 itself, certainly it could be symmetric.

5 MR. MAGUIRE: Michael, please try to
6 wrap this up. I've got to go.

7 BY MR. BECKER:

8 Q One second.

9 Doctor, have we covered all of your
10 opinions in this case?

11 A I think so.

12 Q And do you plan on doing any more
13 research before trial in this case?

14 A I plan on staying abreast of the
15 literature, yes.

16 Q I think the last topic I have is the
17 EEG.

18 You said that the -- with an EEG
19 with a significant brain injury you would expect to
20 see more than one burs suppression pattern?

21 A That's correct. And that's based on work
22 done by Graziani in severe hypoxic ischemic
23 infants. Basically showing that if you have a burs
24 suppression on two EEG's over the course of three

1 days, then you are more likely -- then you are at an
2 increased risk of having a permanent brain injury
3 that you do not have a significant increase to that
4 risk if you have just one burs suppression EEG.

5 Q Well-- but that doesn't necessarily
6 follow that you're at an increased risk, or you can
7 rule out just because you have one burs suppression
8 EEG that you didn't have any significant perinatal
9 insult, does it?

10 A No. It doesn't say that there was no
11 perinatal insult. And it certainly doesn't rule out
12 a prenatal insult either.

13 Q Well, you're not suggesting mainly
14 because what has only one burs suppression EEG, that
15 that rules out, or speaks against a perinatal
16 insult, are you?

17 A I think that that speaks to a severity of
18 the perinatal insult in that the EEG recovered
19 rapidly.

20 And we know that although the
21 perinatal insult is not good for the child, that the
22 large majority of children who have one burs
23 suppression EEG's go on and look normal when they're
24 two or three years old.

1 Q And you cited somebody by the name
2 of Graziani?

3 A Correct.

4 Q Spell that for me?

5 A G R A Z A N I. Leonard Grazani. He was my
6 associate at Jefferson.

7 MR. MAGUIRE: He's Italian.

8 Q Where is that published?

9 A I believe either in the Journal of
10 Pediatrics, or in Pediatrics. I'm not sure. It's
11 about five years old-- six years old maybe by now.

12 MR. MAGUIRE: I got to go, Mike.

13 MR. BECKER: You have to go?

14 MR. MAGUIRE: Yes.

15 MR. BECKER: That's what you said?

16 MR. MAGUIRE: Are we done?

17 MR. BECKER: I don't know that I'm
18 done.

19 Do you have any questions?

20 MR. DAPORE: No. I'm well on my way
21 to finishing up. I am looking over my notes here.

22 MR. MAGUIRE: Okay.

23 BY MR. BECKER:

24 Q Relative to the EEG studies, are you

1 aware of any literature that says what you might
2 expect if, in fact, the insult was sudden and
3 catastrophic versus a difficult run-of-the-mill
4 partial prolonged asphyxia?

5 A Yeah. I mean that's been looked at
6 certainly.

7 Q What is your understanding as to
8 what the literature is on that issue?

9 A Well, my understanding is, is that the
10 literature would suggest that the EEG recovery might
11 be quicker.

12 Q In what scenario?

13 A Well, the EEG is something that looks
14 really more at cortical function, rather than deep
15 deep function; although the background is affected
16 by thalamus in that.

17 Q Which-- I didn't follow you, doctor,
18 which would be quicker?

19 A I think that if you have a -- a sudden
20 catastrophic problem, you are more likely to have a
21 recovery, and you're also less likely to have
22 significant brain damage on a statistical basis.

23 Q So if you had a sudden catastrophic
24 injury around the time of birth, you would less

1 likely expect to see multiple burs suppression
2 EEG's?

3 A That's right.

4 Q That's all I have.

5 MR. MAGUIRE: Thank you.

6 MR. BECKER: I'd like this as soon as
7 possible. What's your turn-around time?

8 VIDEO OPERATOR: Stand by, please.

9 This concludes the Videotape No. 2. The time is
10 11:21 AM. We're going off the video record.

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12 (Deposition concluded.)

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C E R T I F I C A T I O N

I, ANGELA R. WATERS, a Certified
Shorthand Reporter and Notary Public of the State of
New Jersey.

I DO FURTHER CERTIFY that the foregoing
is a true and accurate transcript of the testimony
as taken stenographically by and before me at the
time, place, and on the date hereinbefore set forth.

I DO FURTHER CERTIFY that I am neither a
relative nor employee nor attorney nor counsel of
any of the parties to this action, and that I am
neither a relative nor employee of such attorney or
counsel, and that I am not financially interested in
the action.

ANGELA R. WATERS

Certified Shorthand Reporter

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Notary Public of the State of
New Jersey

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