IN THE CIRCUIT COURT FOR THE
FIRST JUDICIAL CIRCUIT OF
MISSISSIPPI, HINDS COUNTY

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A. B. McCARTY and ELIZABETH L. McCARTY, Individually, and as General Guardians of LUCAS McCARTY, a minor,

Plaintiffs,

vs.

PARACELSUS WOMEN'S HOSPITAL, INC., etc., et al.,

Defendants.

CASE NUMBER

35,393

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The testimony of ELIAS GEORGE CHALHUB, M.D., taken at the Hilton Hotel & Conference Center, 3101 Airport Boulevard, Mobile, Alabama, on the 18th day of July, 1991, commencing at approximately 7:00 o'clock, p.m.

A P P E A R A N C E S

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BY: WHIT JOHNSON, ESQUIRE

LYNN ROBINSON-DYKES
COURT REPORTER

I N D E X

E X H I B I T S

Exhibit 1 (To be provided by Dr. Chalhub.)

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I, Lynn Robinson-Dykes, Commissioner and Court Reporter, certify that on this date, as provided by the Mississippi Rules of Civil Procedure and the foregoing stipulation of counsel, there came before me at the Hilton Hotel and Conference Center, 3101 Airport Boulevard, Mobile, Alabama, on the 18th day of July, 1991, commencing at approximately 7:00 o'clock, p.m., ELIAS GEORGE CHALHUB, M.D., witness in the above cause, for oral examination, whereupon the following proceedings were had:

ELIAS GEORGE CHALHUB, M.D.,

the witness, after having first been duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

MR. LANCASTER:

Would you let the record show, please, that the deposition of Dr. Chalhub is being taken pursuant to the Mississippi Rules of Civil Procedure for all uses permitted by said rules, and that the reading and signing of the deposition by the deponent are not waived by the plaintiff. And I think, Whit, you have an additional--

MR. JOHNSON:

Yes.

MR. LANCASTER:

--stipulation you want to add to that?

MR. JOHNSON:

That this deposition is being taken over the objection of the defendant; that it is being taken pursuant to court order with certain limitations thereon. And I guess that's it.

MR. LANCASTER:

That's fine.

DIRECT EXAMINATION

BY MR. LANCASTER:

Q Would you state your full name, please?

A Elias George Chalhub.

Q What is your business address?

A 5 Mobile Infirmary Circle, Mobile, Alabama.

Q And your residence address?

A 3970 Pinebrook Drive, Mobile, Alabama.

Q What is your profession?

A I'm a physician.

Q Dr. Chalhub, we met before the deposition started, but for the record, I'm Alan Lancaster. I'm one of the attorneys representing Elizabeth and Chuck McCarty and their minor son Lucas in a lawsuit that's been filed against Dr. Kellum which arises from injuries sustained by Lucas at the time of his labor and delivery on February the 7th of 1986.

You are aware that lawsuit has been filed, are

you not?

A I'm aware that the lawsuit was filed. You are not asking me to agree with what you said?

Q No.

A Okay.

No. The attorneys for Dr. Kellum have advised us that you have agreed to serve as an expert witness for Dr. Kellum in this case and have provided us with a summary of your opinions that you are going to testify to in this case. It is our understanding that you will testify as a causation expert and not as to the quality of the medical care afforded to Mrs. Lucas (sic) by Dr. Kellum. Do you understand that distinction that I'm talking about?

A That's correct. I will not testify as to the standard of care of an obstetrician.

Q Okay. Dr. Chalhub, 1 assume that you have given your deposition on numerous occasions. Am I correct?

A Well, I don't know what you mean by numerous. I certainly have given a deposition before.

Q Have you given more than thirty depositions?

A I suspect, over ten to twelve years.

Q Would the majority of those depositions have been in medical negligence cases such as this?

A Yes.

Q I take it, then, that you understand that your

answers here are given under oath?
A Oh, absolutely.
Q And you also understand that in the event you testify at the trial of this case that anything that you say here today can be used against you at the trial?
A Sure.
Q As I mentioned earlier, Dr. Kellum's attorneys have advised us that you are going to be an expert on his behalf in this case, and my primary purpose here today is to find out in a little more detail the opinions that you will testify to at trial and the basis for those opinions. If I'm going to accomplish my goal here, it is important to me, and it's equally important to you, that you and I are able to communicate with each other. Therefore, if I ask you a question that you don't understand, you have the right to ask me to repeat that question or rephrase it as many times as it takes until you understand what I'm asking.
A Okay.
Q You understand that you have that right?

A I understand I have that right.
Q And can we --
A I assure you I will use it.
Q Okay. And can we agree that you won't answer a question unless you understand what I'm asking?

A Yes.
Q Dr. Chalhub, before your deposition started, I asked you if you had a copy of your current curriculum vitae, and you advised that you would provide us with that?
A Sure.
Q A copy of it. If you would, mail that to the court reporter.
A Well, when I read and sign it, I will be glad to provide her with one.
Q All right. And we will attach that as Exhibit 1 to your deposition.
A Okay.
MR. LANCASTER:
Is that okay, Whit?
MR. JOHNSON:
Fine with me.

MR. BELK:
I wonder if we could get a copy of it before it's attached.
MR. JOHNSON:
I may have one at the --
THE WITNESS:
You probably don't have a recent one.
MR. JOHNSON:
All right. If you are going to send one, just

send me one when you get back, and I will send it on to them, And that way I will get one, too.

THE WITNESS:

Okay. Sure. We will do that.

MR. LANCASTER:

That's fine.

BY MR. LANCASTER:

Q Dr. Chalhub, is yours a private practice?

A Well, I'm essentially not in private practice any further.

Q How long have you not been in private practice?

A Since March.

Q Of this year?

A Correct.

Q What is your standing as we sit here today, professionally?

A I am the administrator and head of the Mobile Infirmary Medical Center.

Q Prior to that, prior to March of this year, was yours a private practice?

A Yes.

Q And what was the nature of that practice?

A It's child neurology.

Q Has your practice always been here in Mobile?

A You mean have I always practiced medicine in Mobile? No.

Q Okay. Where else have you practiced pediatric

neurology?
A In Little Rock, Arkansas, and in St. Louis, Missouri.
Q How long have you been here in Mobile?
A Since 1978.
Q Do you have any subspecialty within the field of pediatric neurology?
A I don't believe there are any,
Q Okay. Do you have any specialties other than that of pediatric neurology?

A I'm a virologist, as well.
Q Okay, And what does that concern itself with?
A And a pediatrician. Excuse me.
Q What does that concern itself with?
A It is the study of viruses.
Q Do you subscribe to any professional journals?
A Sure.
Q If you would, give us the benefit of those publications?
A The New England Journal of Medicine, the -- Neurology, Child Neurology, Annals of Neurology, the Journal of the American Medical Association, Pediatrics, Journal of Pediatrics, Pediatric Clinics of North America, Perinatal Clinics, American Journal of OB/GYN. There are a number of them.
Q Are those the principal treatises and journals that you subscribe to?

A Well, there are additional ones. I can't recall them all at the present time, but, yes, those are a number of them.
Q What texts or treatises do you own regarding pediatric neurology of a newborn infant?
A Gosh, that would be hard to tell you over the past twenty years.

Q Well, do you have a principal text or treatise that you rely upon or consider to be --
A Well, I really rarely rely on texts anymore, and haven't for a long time. And most of the people who are in this specialty rely on articles from journals and abstracts from meetings rather than texts.
Q Do you have a principal reference dealing with pediatric neurology of a newborn?
A Well, no. I mean, I use a number of references, you know, whatever I'm interested in looking at.
Q Are you familiar with the Neurology of a Newborn by Volpe?
A Yes.
Q Is that -- do you recognize that as being a good reference in pediatric neurology?
A Yes, I think it's an excellent reference in neurology of the newborn, yes.
Q Is that generally accepted by other pediatric

neurologists as being a reliable source of information?

A Well, I think it depends on what you want. Certainly not everything in there is what everybody agrees with. It's an excellent book. It has a good source of information. However, concepts change and there are differences of opinions.

Q Insofar as undiagnosable preexisting conditions that you have mentioned as being in your opinion the cause of Lucas' problems, is that text generally reliable and has it remained basically unchanged since at least the second edition?

A I don't believe I understand that.

Q Okay. It's my understanding that you have expressed an opinion that Lucas' neurological deficits were caused by undiagnosable preexisting conditions?

A In terms of --

Q Is that --

A In terms of the exact cause, yes, but the mechanism, I think, is fairly clear.

Q Okay. And I will get to that in a moment, but for the time being, what -- when you say the mechanism is clear, what is that mechanism?

A It is, in all probability, an hypoxic ischemic insult to the periventricular germinal matrix.

Q Which occurred when?

A Probably sometime between the thirtieth and

thirty-fifth week.

Q I will get back to that a little later.

Did you know Dr. Kellum before agreeing to serve as a witness in this case?

A No.

Q Have you since met him?

A I have met him on one occasion.

Q Did you discuss, obviously, this case with him?

A No, not with him,

Q What was the occasion of you meeting Dr. Kellum?

A He had accompanied Mr. Johnson on one occasion when I met with Mr. Johnson.

Q Do you recall when that was?

A No. That's been a good while ago.

Q Last year?

A It may have been longer than that. I don't know,

Q And you did not discuss the facts of this case with Dr. Kellum at all?

A No, I discussed them with Mr. Johnson.

Q And Dr. Kellum did not tell you anything about his opinions or his observations in this case?

A I didn't ask him.

Q My question was: Did he tell you?

A No,

Q Have you talked with any of the other

physicians, radiologists, neonatologists that rendered medical care to Lucas?

A No.

Q Have you talked with any of the other experts in this case, for example, Dr. Morrison, Dr. Helen Barnes, Dr. Garland Anderson?

A No.

Q When were you first contacted about serving as a witness in this case?

A I honestly don't know exactly. Several years ago.

Q What was your initial response?

A What do you mean? To what?

Q When you were contacted about serving as a witness, what was your response?

A Well, Mr. Johnson asked me if I would review a set of records and give him an opinion as to what I

thought caused the child's problems, and my initial response was that, sure, I would be happy to do that and give him my opinion as to what I thought caused this child's difficulty.

Q Do you recall when you rendered that opinion?

A No, not exactly.

Q What's your best estimate?

A Sometime over the past two years.

Q Has your opinion changed any from the first opinion until now?

A Well, again, that's difficult to be certain. I didn't have all of the information when I initially had them. So, it's hard to be certain.

Q What information did you have when you first rendered your opinion?

A I don't think I can tell you that. I mean, because I've gotten them over periods of time. So, I can't be certain. I can certainly tell you what I have, and I brought that all with me today.

(BREAK)

BY MR. LANCASTER:

Q Dr. Chalhub, before we stopped for the Coke break, we were talking about the records that you were given at the time of your initial review of this case. And your answer was, I believe, you did not recall what you had at that time?

A Correct.

Q But you do now have everything that you reviewed before you?

A Except the x-rays, which I did not bring with me, because I just didn't -- there was no viewbox, so I didn't think we could look at those.

I'm sorry. I have a videotape. Excuse me.

MR. JOHNSON:

That's that you gave to me.

MR. LANCASTER:

Certainly.

BY MR. LANCASTER:

Q Which goes back to a question that I asked earlier. Has your opinion as to the causation of Lucas' problem changed any from your first opinion, which was based upon some of the records, obviously not all of them? Has it changed any?

A No, I don't think in -- in general, no.

Q What records have you reviewed or what records are you relying upon to support your opinions that you will be giving in this case?

A You want me to go through them all?

Q Please.

A The mother's records.

Q From the Woman's Hospital?

A Right.

Q Okay.

A The baby's records from the Woman's Hospital. Dr. Burnett's records. There is some correspondence from Dr. Bates, Dr. Phillips. I don't know all the -- these Jackson University Hospital records. Woman's Clinic records.

Q Maintained on Elizabeth McCarty?

MR. JOHNSON:

Yeah. Those are some old records.

A Right.

These are office records of Dr. Denny. These are again Dr. Burnett's records. This is a --

Plaintiff's Answers to Interrogatories. How do you want me to identify this, just by number?

BY MR. LANCASTER:

Q That's fine.

A 35893,

MR. LANCASTER:

I assume that that -- is that a Bates number?

MR. JOHNSON:

No, that's the file number. These are y'all's interrogatory answers.

MR. LANCASTER:

Okay.

MR. JOHNSON:

Initially filed in May of '88.

MR. LANCASTER:

Okay.

A These are the Greenwood LeFlore Hospital records on Mrs. McCarty. University of Tennessee records, I believe, of Dr. Golden. No. I'm sorry. Stemburg. Stemburg and Golden. Hudspeth Center records, Mississippi Children's Rehab Center records, Women's Clinic records, Children's Clinic records, Greenwood Hospital.

BY MR. LANCASTER:

Q Now, is this on Lucas McCarty or Elizabeth McCarty?

A I believe that's on Elizabeth. River Oaks

University Medical Center records on Lucas McCarty.

These are some more answers to interrogatories.

Q Okay.

A Number -- I guess that's the same number.

MR. JOHNSON:

It's the same number, These are the ones in December of '90.

A There is a report by a Dr. Dortch on a life care plan. The deposition of Elizabeth McCarty, of Dr. Roy Kellum. Some medical staff bylaws, rules and regulations of the Woman's Hospital. I guess that's just another copy. There's a -- of a doctor -- I'm sorry. There is also a deposition of A, B. McCarty. These are some office records of William Dade Dowell. These are some diary records or copies of a diary, I guess, from Mrs. Kellum.

BY MR. LANCASTER:

Q From Mrs. McCarty, you mean?

A McCarty. I'm sorry. Excuse me.

MR. JOHNSON:

The complaint.

A A copy of the complaint. I think this is some --

MR. JOHNSON:

Those are just cover letters.

A Yes, correspondence. The Institutes of

Achievement of Even Potential records. Records of Dr. Graves, Marilyn Graves. Jackson University Hospital of Lucas McCarty. Some additional answers to interrogatories. Dr. Daniel's records. Dr. Lucas' records, And some more interrogatories.

BY MR. LANCASTER:

Q Okay. Are there any additional tests that you would have liked to have had that were not contained in those medical records before rendering your opinion?

A I don't believe so.

Q Did you review any additional records in preparation for your deposition here today?

A No.

Q Did you review all those records that you've just gone through in preparing for your deposition today?

A No, I can't say that I went through everything again.

Q Which records would you have gone through?

A Gosh. Well, you know, it's hard to be certain. The birth records, the neonatal records and certainly the follow-up records that I needed to refresh myself,

Q Did you review any medical texts or treatises or journal articles in preparation for your deposition?

A No.

Q Have you been provided with a copy of the deposition of Dr. Morrison?
A No, I haven't.
Q Have you had occasions in the past to work with Dr. Morrison on other cases of medical negligence?
MR. JOHNSON:
I'm going to object and instruct him not to answer. That doesn't have anything to do with his opinion.
MR. LANCASTER:
Is the basis of your objection with the scope of the deposition order by the court?
MR. JOHNSON:
Yes. Yes.
BY MR. LANCASTER:
Q Dr. Chalhub, I may have asked you this earlier, but did you consult with the radiologist at the time that you reviewed the CAT scans and sonograms in this case?
A I'm sorry. Which radiologist?
Q Any of the radiologists that performed any of the CAT scans or ultrasounds that you said that you had but did not have with you here today?
A No. I think you asked me that, I said no.
Q And while we are talking about that, you were provided with copies of the CAT scans that were performed or made or -- that were made of Lucas on

February the 10th and thereafter; is that correct?
A I don't--
MR. JOHNSON:
Say that again.
A --believe the 10th was a CAT scan. I think that's an ultrasound, isn't it?
BY MR. LANCASTER:
Q Okay. That's correct.
MR. JOHNSON:
Did you say May?
MR. LANCASTER:
Made.

MR. JOHNSON:
Made. I'm sorry. Okay.
BY MR. LANCASTER:
Q What CAT scans and ultrasounds have you reviewed?
A The ultrasounds taken at the time of birth, I believe, on the 10th, and on the 17th? Then a CT scan of August the 9th, and then a recent one. Or I guess the recent one is August the 9th.
MR. JOHNSON:
It's that one you gave me back when we had that hearing. Was it last summer?
A I can't remember all the dates of them. I believe there are three CT scans and two ultrasounds.
BY MR. LANCASTER:

Q Did you review the CT scan that was made in February of 1986?

A Yes.

Q Before his discharge?

A Correct.

Q Dr. Chalhub, have you authored or co-authored any publications dealing with the areas of your opinions in this case?

A Sure.

Q Can you tell us the names of those publications?

A Well, you know, it's hard to be -- you know, for the sake of being absolutely specific -- you know, one touches on mechanisms of injury to babies, and virtually many articles. I really can't tell you specifically.

Q Would those articles be listed on your current CV?

A Sure.

Q If you would, circle those publications at the time that you give it to the court reporter that in your opinion deal with the areas that you will discuss in this case. Can we agree that you will do that?

A To the best of my ability. You know, I don't intend to *go* back and read them all. So, if I exclude some, it won't be intentional, or if I include some that may not.

MR. LANCASTER:

Okay, If you would, mark this as Exhibit 2.

(WHEREUPON, EXHIBIT 2 WAS MARKED FOR IDENTIFICATION.)

BY MR. LANCASTER:

Q Dr. Chalhub, I hand you what's been marked as Exhibit 2 to your deposition, which is a list of some of the publications that you have either authored or co-authored. If you would, take a look at that list and circle any of those that you feel might be relevant to your opinions that you might express here today and also at the trial of this matter.

A (Witness complies.)

MR. JOHNSON:

Are you through with that?

MR. LANCASTER:

(Proffers document.)

BY MR. LANCASTER:

Q Dr. Chalhub, have you participated in any medical research that did not lead to a publication that would be relevant to your opinions in this case?

A I don't know how to answer that. Over twenty years, sure, I'm sure I've done some investigations that may have been pertinent to mechanisms of brain injury to children that I haven't published.

Q Offhand do you recall any of those projects?

A Specific studies? No. We looked at a lot of

babies over a long period of time.

Q What has your experience been in dealing with infants who have sustained injuries due to the use of forceps?

A Perhaps you could clarify that. I'm not sure what exactly you want from that.

Q What experience have you had dealing with infants who have sustained injuries due to the use of forceps?

A Well, I've taken care of babies over twenty years that have had injuries as a result of delivery by forceps,

Q What was the mechanism that caused the injury?

A Well, in some instances it was assumed that it was related to the forceps delivery. In other instances, it was uncertain. The mechanism is trauma. The mechanism is skull fracture, intracranial hemorrhage, porencephaly and microcephaly accompanied by an appropriate clinical syndrome.

Q And what is the appropriate clinical syndrome that you would expect to see?

A Well, I would expect to see a comatose child on a ventilator for an extended period of time with

intracranial and intraventricular hemorrhage with prolonged severe seizures and followed by microcephaly, spastic quadriparesis, probably blindness, permanent seizure disorder, severe mental

retardation,

Q Can we agree, Dr. Chalhub, that excessive force from the use of forceps, whether it be traction or compression, can result in an anoxic or hypoxic insult to the fetus?

A No.

Q We cannot agree to that?

A No, I can't agree to it.

Q Why not?

A Because it's not true.

Q Are you saying it's impossible?

A No, I didn't say it was impossible, I said as you stated it, it's not true.

Q What part of that statement do you disagree with?

A Pretty much all of it.

Q Forceps cannot cause a fetus to sustain an anoxic insult?

A Not unless you can explain to me how.

Q Well, the question is: Can that happen?

A Not to my understanding.

Q And you are saying medically it cannot happen?

A Well, I mean, I don't know what you mean by anoxia. So, perhaps -- you know, I'm not sure I understand it, but as I understand, what I know by anoxia, no, it cannot.

Q As I understand anoxia, that's total

deprivation of oxygen.

A All right. I don't know how --

Q Hypoxia is partial deprivation of oxygen.

A I don't know how forceps do that.

Q Okay. Do I take it, then, that your opinion is it's medically impossible, as far as your experience in the practice of medicine is concerned, for forceps to be related in any way to an anoxic insult?

A Well, again, I'm not certain you understand what an anoxic insult is. So, I -- as you phrased the question, no, I do not feel that that's a pathophysiological mechanism in disease processes as implemented by anoxia and the use of forceps.

Q When you use the term anoxic insult, what do you mean?

A Well, I rarely use it because there is rarely an instance of anoxia, unless, you know, somebody is dead.

Q Cardiac arrest?

A Well, for a prolonged period of time, sure, until all of the oxygen is used up.

Q Okay. And when you say a prolonged period of time, what time period are you talking about?

A You know, it depends on the host, the status, the age, the circulation.

Q Well, I thought we were talking about a fetus. So, we are talking about in utero.

A We are talking about -- well, you didn't clarify that. You are talking about in utero?

Q Right.

A Maybe I don't understand that either.

Q Well, I assume that the only time forceps are going to be applied, the fetus is in utero; right?

A No, I wouldn't think they are in utero.

Q Okay. What would be the correct description of that, then?

A I think they would probably be in the vaginal canal.

Q Okay.

A It's kind of hard to get the forceps up into the uterus.

Q Well, okay. I think I was using the description in a broad sense, not perhaps medically, technically correct, but for the purposes of these questions, I am meaning when the fetus is in the normal position, whether it be mid-forceps or outlet forceps delivery, is what I'm talking about when I say in utero.

A Well, that's not correct.

Q Okay. But the question is, we were talking about how long a period of time that the infant or the fetus would have to experience this anoxic insult before there would be some brain damage?

A Now, anoxic insult from what? From the use --

Q From cardiac arrest?
A Oh, from cardiac -- well, again, it depends on the cause of the cardiac arrest and the status of the infant at that time. It can vary from four minutes up to thirty minutes to an hour.
Q And do I understand it, then, from a period of four minutes to thirty minutes, there can be the brain

damage that we were talking about?
A Well, and again, your question is not very specific, so it's hard to give you a specific answer, because you are not defining the status of the infant, the metabolic status, the reserve, the, you know, particular age of the premature infant, Is it thirty weeks, thirty-five, thirty-seven, forty-one? You know, what's the cause? You know, how long has the cause been going on? What's the metabolic status? What's the glycogen stores? You know, what -- there is a lot that has to go along with that.
Q Okay. I will try to give you some more specifics. Applying -- assume that Lucas, in this case, experienced cardiac arrest at 5:25, and that's right before the application -- or, right at the time of the application of forceps; okay?
A You want me to assume that this baby had a cardiac arrest at, 5:25 and was delivered at 5:50?
Q Correct.
A That's -- I can't assume that, unless you want

me to assume a hypothetical case unrelated to this.
Q That's what I'm asking you to do.
A Okay. So, we are talking about a hypothetical

case unrelated to the facts in this case?
Q Well, the facts in this case may be in dispute.
I may not agree with what you say the facts are, but
I'm going to frame my question asking you to assume
those facts. That at the time of the initial
application of forceps that Lucas experienced cardiac
arrest. Do you know -- I suppose the -- his
condition, as best medicine can determine it, at
least, by looking at the fetal heart strips?
A Again, I don't think I understand that.
Q Can we not agree that the electric fetal
monitor is the best indicator that we have of the
health of the fetus at the time, during the labor and
delivery process?
A Well, that's perhaps a question you need to ask
an obstetrician.
Q You are not familiar with what is measured by
an electronic fetal monitor?
A Well, as a pediatric neurologist, all an
electronic fetal monitor does is measure the
heartbeat. It doesn't tell you anything about
anything else in the baby, that I'm aware of.
Q Well, does it tell you whether or not the baby

is being asphyxiated or how he appears to be managing

the stresses of labor?

A Well, I don't know about the stresses of labor. It certainly doesn't tell you a great deal about asphyxia.

Q Do you know what it is used for?

A Sure. It's used to assess the fetal heart rate of the baby.

Q And what can we determine by observing the fetal heart rate of the baby?

A Well, you know, again, I don't do that. So, you need to ask an obstetrician that.

Q Okay. Can we agree, Dr. Chalhub, that fetal cardiac arrest can result from the improper use of forceps?

A You know, again, I don't -- unless -- what type of improper use and what's the damage, and then perhaps I can answer that, because otherwise, just using forceps, I'm not aware that you can cause a cardiac arrest.

Q I don't know how to state that question any clearer, Dr. Chalhub. It's just whether or not is it medically possible, in your experience, either based upon your reading or personal experience, that a fetal cardiac arrest can be caused by the improper use of forceps?

A Well, since I don't use forceps, then I don't know what's improper. Now, if you were to have

damage, you know, like a skull fracture which is depressed or multiple comminuted skull fractures with a severe intracranial hemorrhage and brain herniation, yes, it could cause a cardiac arrest, But excluding that, I find -- I don't really know how it does that.

Q All right. **So,** let me see if I understand what your opinion is. Unless there is a skull fracture or intracranial hemorrhage, it's your opinion that fetal cardiac arrest cannot result from forceps?

A No, that's not what I said,

Q Okay. Tell me what you said.

A It depends on the type of situation you are talking about as a result of the application of forceps. Now, whether that's proper or improper, I'm not in a situation to make that judgment. Because certainly injuries with forceps occur when proper use is applied. Now, my experience has been that the only time that I see a cardiac arrest is with severe

intracranial damage, and that usually is a combination and/or of multiple skull fractures, intracranial hemorrhage, either extradural or intradural, intraparenchymal or intraventricular, with herniation and brain stem involvement.

Q How might brain stem involvement be related to the use of forceps?

A By the mechanism I just explained to you.

Q What force would cause that injury, for lack of

a better term, to the brain stem?
A What force?
Q Are we talking about traction or compression?
A Oh, I don't think traction can cause a brain stem injury. I mean, that would be extremely unusual. In terms of -- certainly it can cause C spine injuries, or cervical spine injuries, Perhaps lower brain stem, that's involved in the cervical spine, but in terms of pons or midbrain or higher medulla, no, I don't think so.
Q We may have talked about this earlier, and I believe that we did, but just in case I didn't, can we agree that fetal cardiac arrest in an infant, when the infant is in the -- I think you said the vaginal

canal, followed by successful resuscitation, result in the fetus sustaining permanent brain damage?
MR. JOHNSON:
I object to the form. You may answer it.
A That's not very clear to me. Could you just say it one more time?
BY MR. LANCASTER:
Q Can we agree that fetal cardiac arrest followed by successful resuscitation after delivery result in the fetus sustaining permanent brain damage?
A Hypothetically?
MR. JOHNSON:
Object to the form.

BY MR. LANCASTER:
Q Yes.
A Yes. That's possible, sure.
Q All right. Now, from a general standpoint, are there time periods that you would expect the brain damage to occur? By time periods I'm talking about the time period of the deprivation of oxygen to the brain?
A Well, yes. I mean, certainly there are time periods, but the way you assess that is by the

associated clinical symptoms and findings. Okay? Because we really don't know absolutely what one individual will tolerate as opposed to another. So, there is a great deal of variability. But what we do know is that infants that have cardiac arrests have a clinical syndrome which is consistent virtually in all of them, you know, indicating patterns of injury, And that's fairly consistent. And if that's present, then you can say that there was injury related to that ischemic episode. When it's not, you can feel very certain that it was not related.
Q In Dr. Morrison's deposition, he indicated, and I believe I'm correct, that it was possible for a fetus to be deprived of oxygen for as long as fifteen minutes and not sustain any brain -- permanent brain injury?
A Oh, it's possible for a fetus for greater than

an hour to be deprived of oxygen and not suffer any injury.

Q What is the shortest period of time that your experience has been that permanent brain damage has resulted?

A Well, that's a difficult question to answer.

You are like asking is the sky blue. I mean, is the baby a premature infant? Does the baby have sepsis? Does the baby have other type of problems going on? What's the acid base? All of those are factors, And so, if you can clarify that, then I can perhaps give you an estimate. But the bottom line is that human beings, babies in particular, have variable responses to stress. And by stress I'm meaning types of injury. And that depends on a multitude of factors. What we do know and what we do know clinically is that they respond in a similar manner. And if they fit into a clinical pattern, then you can say, yes, this in all probability was related to this pathophysiological mechanism.

Q Can we agree that the damaged areas of Lucas' brain are consistent with an acute anoxic insult during the labor and delivery?

A No.

Q Okay. Why not?

A Because it isn't the type of pattern you see.

Q Well, what facts in the medical records or in

the records that you have before you do you rely upon to say that?

41

A All of them.

Q All of the facts?

A Uh-huh. Correct.

Q The fact that he was born on February the 7th, 19863 That's some of the facts in these records. Can't you be more specific than that?

A Okay. Well, I thought you meant the clinical facts. I mean, obviously he was born.

Q What are the clinical facts that you rely upon?

A Well, you know, the facts that he was depressed at birth, had periventrieular leukomalacia at three days of age by ultrasound, had no meconium, had no significant acidosis, had no heart failure, no renal failure, was extubated at six hours of age, had seizures at thirty hours of age and now has subsequent CT scans which do not show any cortical injury. He does have a clinical pattern consistent with basal ganglia involvement and extrapyramidal signs and with probable relatively normal intelligence,

Q What is the significance of the seizures at thirty.hours?

A Well, it's just -- it's a little bit long for

42

an acute intrapartum insult due to lack of oxygen and blood flow. It's not inconsistent with a previous

insult or even an insult after birth.
Q Is it your opinion that he had an insult after birth?
A No. I just said it's consistent with it.
Q Is there anything in the records that would indicate that he had an anoxic insult or an hypoxic insult after birth?
A Well, he was resuscitated for a period of time, but, you know, there is no way for me to assess if there was any added injury after birth as a result of his resuscitation. I mean, I just can't tell you that. I mean, that's, you know, certainly conceivable and possible.
Q I think the question was: Is there anything in your review of the records that revealed that that, in fact, happened in his case?
A Well, I've told you that's possible. You know, there is no way to tell you that. There's no markers to do that.
Q So, I take it that there is nothing in the records that points to that?

A No. The records could be consistent with that, but there is no way to be absolutely certain.
Q And could also be consistent with -- I think you said earlier, with an hypoxic event that occurred in the thirty-fifth or the thirty-seventh week?
A Yes, That's very consistent with the pattern

of injury and the clinical syndrome the child has and the facts surrounding the birth.

Q Are there any diagnostic tests that we can do today that would tell us, as best that medicine can, the approximate time frame of the fetal brain damage to Lucas?

A I think you've already done that. You already have them documented, and you have -- the best evidence is his clinical syndrome.

Q I think the question was: Are there any other diagnostic tests that would assist us in making that determination?

A I'm not aware of any.

Q Would an MRI be of any assistance?

A It may. It probably is not going to show anymore than you have gleaned from the recent CT scan.

Q Can you look at an MRI taken today and determine the approximate time of the insult to the brain?

A Just from the MRI scan? No. Unless there is a lesion that would indicate a developmental malformation of the brain. Then you could perhaps time it to the appropriate developmental stage of the brain.

Q Do you frequently use MRI's in your practice or did you prior to March of this year?

A Sure.

Q Did you make your own interpretations of those MRI's?

A Yes.

MR. JOHNSON:

Have y'all done an MRI now?

MR. LANCASTER:

I'm just asking the questions.

MR. JOHNSON:

You know, if -- I mean, there is a request for production, and if y'all come in here to get his opinion and you've got something that you hadn't provided us...

BY MR. LANCASTER:

Q I think my question was: Are there any other diagnostic tests that we could perform to approximate the time of Lucas' brain injury? And if I'm correctly stating your opinion, your opinion is, no, there is not, that the CAT scans that you hava plus his clinical symptoms is all you need?

A No. I think you incorrectly paraphrased me, but I think the record will stand.

Q All right. Can we tell by the areas of the brain that are damaged as to the approximate time of the insult?

A Well, you do it -- maybe I can simplify things for you. You practice medicine based on a

constellation of findings and clinical patterns, not on one single isolated event. And when you have the pattern of injury and the facts surrounding it, such as with this case, then you can reasonably assume that an injury occurred at an approximate time. You may not be able to state the exact etiology, but you can certainly tell the time of the mechanism and you can tell what it probably is not.

Q The periventricular leukomafacia that was diagnosed in the CAT scans, I believe, is that an area of the brain that we know is damaged from a particular type of insult insofar as a time frame is concerned?

A I think your question is wrong. I mean, your question is wrong. I mean, it's the ultrasound, but the -- state the last part of it again for me.

Q The area of the damage to Lucas' brain, is that in the periventricular area?

A Correct.

Q Okay. Is it your experience that damage to that area of the brain occurs in the thirty-fifth to the thirty-seventh week?

A Yes, that's predominantly when it does occur, if the baby is in utero. If it's after birth, then it occurs at that time, also,

Q Okay. Did you review the fetal heart monitor strips in this case?

A I just looked at them. I don't interpret fetal

heart monitors.
Q Okay.
MR. JOHNSON:
Off the record.

(WHEREUPON, THERE WAS AN OFF-THE-RECORD DISCUSSION.)

BY MR. LANCASTER:
4 In your review of the records, did you or do you have an opinion as to the condition of the fetus prior to the application of forceps?
A Well, clearly the child had a periventricular insult and was compromised, you know, in utero a number of weeks prior to birth. I mean, that's fact. That's not -- you know, I mean, that's pretty much understood, Now, if you have anything -- any other time in mind, I mean, I don't know what you mean.
Q No. Do I understand you to say that it is medically impossible for Lucas' insult to have occurred during his period of labor and delivery?
A Well, taking into consideration all of the facts that I mentioned to you, yes,
Q Do you agree with the opinions expressed by Dr. Missy Ferguson, who is a neonatologist, that based upon the results of the CAT scans and ultrasounds that were available to her in February of 1986, that there was no evidence that Lucas' deficits were as a result

of congenital abnormalities?

MR. JOHNSON:

Object to the form. You can answer.

A I don't -- where did she state that? I don't think I saw that.

BY MR. LANCASTER:

Q Well, do you disagree with that?

A Well, I don't know. I mean, you know, I don't know whether you can see all congenital abnormalities on those studies, and so, I can't tell you what microscopic abnormalities. And based on his clinical assessment that I see now, I don't believe that he has a congenital malformation, that's correct. But I can't exclude it totally.

Q What congenital abnormality would result in the neurological deficits experienced by Lucas?

A Well, you know, if he had neuronal heterotopias in the periventricular area or had partial agenesis of the corpus callosum or some other developmental malformation of migration or proliferation, it may result in some problems that may mimic that. I mean, there is no way for me to know that. I mean, I think that's unlikely.

Q There is nothing in the medical records that

you have seen that points to that?

A Well, I'm not sure there is anything in these medical records that would either point to it or not

point to it, because they -- you know, one either basically has to have an autopsy or some highly specific studies.

Q What type highly specific studies are you referring to?

A Perhaps a PET scan, an MRI scan may share the result on an earlier defect in terms of congenital malformation, And, you know, if you have an MRI scan, I'm happy to look at it. I mean, do you?

Q Well, today's my day to ask questions.

MR. JOHNSON:

Except that - I want this clear on the record y'all have asked --

MR. LANCASTER:

You can put anything on there that you want to put on there.

MR. JOHNSON:

I'm about to. That there is an outstanding request for production of documents, and if y'all have got things that y'all are basing your client's opinions on or basing your expert's on, and you are going to take our guy's without providing that information to us, so that we have a fair shot at it, I just want to state for the record I think that's highly improper. And if you don't have one, that's fine.

A No, that's fine. I don't --

MR. JOHNSON:

But if you've got one, tell me.

BY MR. LANCASTER:

Q And the record just -- it's my understanding, from your testimony, that an MRI would not assist you in any way?

A No, that's not what I said.

Q That's incorrect, Okay. How would an MRI assist you?

A Well, you asked me if this child could possibly have a congenital malformation. I told you an MRI scan may show that, You know, whether that's related to this problem, one has to determine that based on that and based on the other clinical findings. I've said I think it's unlikely based on the facts, but I can't exclude it, as I've already stated to you.

Q Would an MRI exclude congenital abnormalities?

A No, it wouldn't exclude them. It may help you say there is, but it's still not going to exclude it.

Q Are there any diagnostic tests short of an autopsy that would exclude congenital abnormalities?

A Not totally, no. And I assume you are talking about the brain? I mean, you are not talking about the rest of the body?

Q Of the brain, yes.

A Okay.

Q Yes.

A I mean, let me make sure we preface all the previous points that we were talking about with the brain. Is that fair?

Q That's, I think, a fair assumption.

A Okay.

MR. LANCASTER:

Off the record.

(WHEREUPON, THERE WAS AN OFF-THE-RECORD DISCUSSION.)

BY MR. LANCASTER:

Q Can we agree, Dr. Chalhub, based upon a reasonable medical probability, and your review of the

records and the CAT scans and the ultrasounds in this case, that the type brain injury sustained by Lucas is not a congenital abnormality?

MR. JOHNSON:

Object to to form. You can answer.

A Well, you know, I've told you what my opinion is based on looking at all the records and his subsequent clinical pattern. And I feel that it is most probable that it is not. It is most probable it's consistent with an hypoxic ischemic episode sometime during the in utero period consistent with periventricular damage.

BY MR. LANCASTER:

Q So, I take it, then, it is your opinion, based upon a reasonable medical probability, and your review

of these records, that Lucas' neurological deficits are not a result of congenital abnormalities?

Q It's more probable than not that they are not.

(BREAK)

MR. LANCASTER:

If you would, mark these as Exhibit 3 and 4.

(WHEREUPON, EXHIBITS 3 AND 4 WERE MARKED FOR IDENTXFICATION.)

BY MR. LANCASTER:

Q Dr. Chalhub, I hand you what's been marked as Exhibit 3 and 4 to your deposition. These are designated as the Defendant's Supplemental Answers to Interrogatories, which is Exhibit 3, and Supplementation of Expert Witness Response, which is Exhibit 4. Have you had a chance to review those documents insofar as pertains to the opinions that you will express in this case?

A I have.

Q Are those opinions still your opinions? Do you concur in all that's --

A Yes.

Q Do you have any additional opinions other than those expressed?

A No.

MR. JOHNSON:

I'm going to object to that question. We will be here forever.

A You are talking about --

BY MR. LANCASTER:

Q Relative to this case?

A Yes, relative to this case. Well, you know, I have a lot of opinions in terms of pathophysiological mechanisms, but no. I mean, I've essentially stated what my opinions are.

Q The factual basis for your opinion that Lucas' deficits were not the result of excessive force, whether it be traction or compression, are set forth in your answers. And just summarizing those very quickly, a skull fracture, intracerebral hemorrhage, visible forceps injury on the face or cheek and an absence of medical notations of any type of forceps -- visible forceps injury in the medical records, Are there any other factual bases in the records that you rely upon to say that there was not an excessive force?

A Sure. The ultrasounds, the CT, the blood gases, the clinical syndrome, the subsequent course of the child, the clinical examination at the present time.

Q The blood gases, what is significant about the blood gases?

A Well, I mean, the blood gases are really fairly normal for a newborn, and I would find that very inconsistent with somebody that suffered a severe

traumatic injury as a result of forceps.

Q What would you expect to see?

A Well, I expect to see a severe metabolic acidosis if forceps caused intracranial trauma significant enough and documented, you know, which it does when it does, to cause a cardiac arrest and then subsequent brain damage as a result of that cardiac arrest.

Q What period of time does it take for metabolic acidosis to manifest itself?

A That's a difficult question. It depends on a lot of factors. The metabolic status of the child, the cause, the amount of or lack of oxygen and, you know, the gestation of the baby. A whole host of things.

Q I believe the pH in this one was, what, seven point two o after an hour?

A Correct.

Q Is that correct?

A (Witness nods head affirmatively.)

Q What would you expect it to be under the facts of Lucas' case if the insult had been caused by forceps?

A I wouldn't expect it to be any different. I mean, first of all, forceps insults don't cause acidosis. Okay? I mean --

Q Well, can that not be a secondary result of a

cardiac arrest?

A Well, assuming that forceps causes a cardiac arrest?

Q Correct.

A I don't know how that does it either, unless you have all of the other things that I've mentioned before.

Q The skull fracture?

A Well, no, that's one of the things.

Q The hemorrhage and all that?

A You don't necessarily have to have a skull fracture, but you have to have something, you know, and I don't see anything.

Q Okay. All right. If you will, very slowly itemize the factual basis for your opinion that Lucas' deficits were the result of a chronic insult that occurred during the thirty-fifth or the thirty-seventh week of gestation.

A Well, he is a full-term infant, who is born,

that is depressed, and is found to have periventricular leukomalacia and has really no evidence of an intrapartum insult clinically and subsequently has a clinical syndrome consistent --

Q (Indicating.)

A Wait a minute, now. Let me finish, then you can ask me questions. Then he is --

Q Well, then, you are going to have to go slower,

if I'm going to write these down and go back one by one.

A Wait a minute, now. That's what the court reporter is here for.

Q No, I can't remember them to ask you questions about them.

A But then you can read it from her. But that's why we are here.

Q I don't have the benefit of her reading it to me one by one. That would take her forever.

A No, it won't. She's pretty good.

Q Okay.

A But if -- well, I will do it. I mean, if you want me to dictate it to you, we are going to be here for a long time.

Q Well, I guess that's -- you know, that's the only way I can find out the basis for your opinions and ask you some questions about them, is for me to be able to remember each one of them.

A I won't argue with you. I just -- okay. Ask your question again.

Q The factual basis for your opinion that Lucas' neurological deficits were due to a chronic insult that occurred somewhere between the thirty-fifth and thirty-seventh week of gestation?

A Okay. All of the things that I've mentioned, in addition to the periventricular location, the

subsequent clinical picture of extrapyramidal signs, normal head circumference, no evidence of a cortical insult and all of the facts surrounding the birth and the delivery.

Q What is the significance of the periventricular leukomalacia in that opinion? How does that fit in?

A That's a hypoxic ischemic insult in the periventricular germinal matrix, which is essentially an insult of a premature infant.

Q You mentioned also that one of the factual bases was the subsequent extrapyridial (phonetic)--

A Pyramidal.

Q Pyramidal, right. What is the significance of that?

A Well, the significance is that it implies basal ganglia involvement, which is often seen in periventricular injuries.

Q And the basal ganglia, I assume from your opinion, could not be traumatized by the force of forceps?

A Gosh, I don't see how.

Q Okay. Could the symptoms or Lucas' condition be the result of cardiac arrest?

A Which symptoms?

Q His neurological deficits, the periventricular leukomalacia and the resulting neurological deficits that you know that he has based upon your review of

the records?
A That term? No. Absolutely not.
Q So, in your opinion, cardiac arrest during the labor and delivery of Lucas could not be the cause of his neurological deficit?
A No, not as he has it now, not with a normal head circumference, normal -- relatively normal

intelligence, with the exception of, you know, expressive problems. Periventricular leukomalacia is not an injury that you see in a term infant as a result of a cardiac arrest, and then his subsequent clinical course and findings, and I'm talking about all of the things, don't support that.
Q And I guess what I'm asking you, and you -- we may be saying the same thing, but is it your opinion, based upon all the facts in this case that's set forth in the medical records, that Lucas' neurological deficits could not have been caused by a cardiac arrest experienced during his labor snd delivery?
A That's correct.
Q Okay. What does the normal head circumference -- how does that play into your opinion?
A Well, it means that the brain is growing at a normal rate and the cortex is not involved.
Q If his problem had been caused by cardiac arrest during the labor and delivery period, would you expect him not to have a normal head circumference?

A Oh, absolutely. That's where the cerebral vasculature is in a full-term infant, You would usually see a distal field infarction, and the predominant area that's involved is the cerebral cortex. You certainly can have other areas, but it's almost impossible to have a cardiac arrest cause a parasagittal or distal field injury and -- you know, as a term infant and not be present.

Q Okay. What is the significance that there was no evidence of cortical involvement?

A Well, the significance is that in a term infant that has lack of oxygen and blood flow as a cause of the etiology almost invariably involves the cortex, because that's where the cerebral blood vessels are most vulnerable, not in the periventricular area.

Q Well, are you saying that it is impossible from a medical standpoint for him to experience a cardiac arrest and not have cortical involvement?

A Oh, I don't think anything's impossible, but when you have a baby that doesn't have cortical involvement, has a normal head circumference, has no meconium, no renal failure, no heart failure, you know, extubated at six hours of age, that's impossible as a result of a severe intrapartum insult.

Q Is the factual basis for your opinion that Lucas' problem is an undiagnosable chronic condition the same facts that you rely upon to say that it is a

chronic insult?
A Well, they are all the same facts, yes.
Q Are there any additional facts?
A No.
Q We touched on this a little bit a while ago, but are these chronic undiagnosable conditions that you are talking about, are they capable of being diagnosed today short of an autopsy?
A I'm not even sure with an autopsy that you would get the exact etiology. You know, greater than seventy to eighty percent of intrapartum insults, we don't know the cause of them in babies.
Q In Dr. Morrison's deposition we talked about his opinions as to the causation, and if I am correct, it was his opinion that Lucas' problems were developmental in origin. And he broke that category down into several different areas, One was chromosomal, one was structural, and there are a couple of others that I don't offhand remember. Do you disagree with that opinion?
A Well, if you don't remember them all, how can I disagree with it?

Q Well, no. Do you disagree with his opinion that his problem was developmental? Is that consistent with your opinion?
A Well, it's hard for me to comment on without first of all reading it, but I don't know what he

means by developmental. I would have to ask him. So, you know.

Q Well, one was chromosomal?

A Well, I mean, if the child has had a chromosomes and they are normal, then it probably isn't chromosomal. But that doesn't exclude a genetic or developmental problem. But the majority of genetic or developmental problems are unrelated to chromosome problems. So, again, you would have to ask him what he means.

Q All right. I asked him if a genetic study or a genetic workup of Lucas would exclude any of these undiagnosable developmental problems. What is your opinion?

A No, it wouldn't.

Q It would not?

A (Witness shakes head negatively.) No.

Q Would it exclude any of them?

A Well, it would exclude known chromosomal abnormalities that could be detected by that method, assuming appropriate Giemsa staining and banding were done and the appropriate methods of 1991 were used.

Q You also opined that the fetus could not handle the stress of normal delivery. What do you mean by that?

A Well, the baby being born through the birth canal, you know, is oftentimes unable to tolerate the

stress of labor, and when that occurs, the baby is depressed at birth, and that's because of a preexisting impairment in an infant.

Q What facts do we have in this record that Lucas was not able to cope with the normal stresses of labor?

A Well, he was depressed at birth, he had periventricular leukomalacia, which is absolute evidence that he had a preexisting injury. And the subsequent clinical course is consistent with that.

Q The periventricular leukomalacia that is diagnosed in the ultrasound and perhaps even in the CAT scans - I'm not sure - how long in your opinion would the insult have had to have occurred for him to have periventricular leukomalacia?

A A number of weeks.

Q What's the shortest period of time?

A I don't know. At least two weeks. But again, that's difficult -- there's just a lot of variables with that.

Q Correct me if I'm misstating your opinion, but it is your opinion that the periventricular leukomalacia experienced by Lucas in this case had to have occurred at least two weeks prior to his delivery and could not have occurred during the labor and delivery?

MR. JOHNSON:

Object to the form. You may answer.
BY MR. LANCASTER:
Q Is that correct?
A Well, my opinion is that it could not occur in that short a period of time. The pathophysiological mechanism is not such. And the usual course of events is that it occurs in premature infants who have vulnerable brain in the periventricular area. The usual time course is thirty to thirty-five weeks either intrapartum or postpartum. The majority of

those are postpartum.
Q Is it medically possible for Lucas to have experienced the periventricular leukomalacia, as seen in the ultrasound some three days or seven days after his birth, during labor and delivery? Is that medically possible?
A Now, wait a minute. You said two things. Three days or seven days?
Q Either, both?
A Well, I guess it's possible at seven days, certainly not possible at three days, to see some changes. Whether they are the same things that you would anticipate in -- and the pathological change, you know, one would then have to assess the individual factors. But in Lucas, no. The three days, periventricular leukomalacia would absolutely not be an insult as a result of a birth process, particularly

in this situation.
Q If you would, turn to the ultrasounds that were performed on Lucas three and, I think, seven days after his -- maybe it's three and ten days, whatever.
MR. JOHNSON:
Three and ten.

What are we looking at first?
MR. LANCASTER:
Okay. Looking at the ultrasound on 2/10/'86.
BY MR. LANCASTER:
Q That was the first one; is that correct?
(Pause)
A Correct. I'm sorry.
Q It says there is a small area of periventricular leukomafacia on the right side. Is there any significance that it's on the right side as opposed to the left side?
A No.
Q The CAT scan that was performed on 2/24/'86 indicates that there is -- I suppose -- is this some swelling bilaterally in the periventricular regions? Is that what that white matter demyelinization -- is that really what they are referring to, is a swelling?
A No. I think what they are actually seeing there, the white matter demyelinization, is probably normal brain, and -- as I see them, because babies in the frontal areas and that area will often have

decreased densities.
Q Do they have myelin at that point?

68

A Sure.
Q Okay. Dr. Chalhub, are we saying that you cannot have periventricular luekomalacia that would be evidenced on an ultrasound three days after birth that occurred during the labor and delivery period?
A As a result of what?
4 Of any cause?
A You mean of the causes of periventricular leukomalacia?
Q Yes.
A Yes, that's correct.
Q Are there any causes of periventricular leukomalacia that can occur during labor and delivery that would evidence itself three days afterwards on an ultrasound?
A No. Not that I'm aware of.
Q Do you know what caused the apoxic insult that resulted in Lucas' problems?

MR. JOHNSON:

Object to the form. You can answer.

A You mean the hypoxic ischemia?

BY MR. LANCASTER:

Q Yes.

69

A No, I don't.
Q Do you have an opinion?

A It usually is due to decreased blood flow to the fetus, whether it's the fetus rolling over on the vena cava, kinking of the cord, a hypotensive episode in the mother, infection. I don't -- it's difficult to be certain.

Q How long would this kinking of the cord or these other problems that you are talking about, how long would that have had to have occurred for it to result in the degree of damage sustained by Lucas?

A I don't know the answer to that.

Q Do you have an opinion?

A No.

Q Anywhere from one minute to hours?

A No, it has to be more than one minute.

Q Okay, What is the least amount of time?

A I don't think we really know that. I mean, that's why -- I'm not being difficult. I can't tell you the -- one minute would be unusual. It may be multiple events.

Q And the factual basis for that opinion are the reasons that you have given us before in your

deposition; is that correct?

A Yes, and my knowledge, understanding and expertise over the past twenty years in neurology.

Q Are there any signs in these records that you would have liked to have seen to have made your opinion in that regard firmer than it is today?

A I don't think I know how to answer that. I mean, I don't know what signs you are talking about. I mean, the data that's available in the charts and in the x-rays and the clinical course is sufficient to come to this conclusion by anybody that looks at these records.

MR. LANCASTER:

Give us just a moment.

(BREAK)

BY MR. LANCASTER:

Q Dr. Chalhub, only a few additional questions. You state in your answers to interrogatories --

MR. JOHNSON:

The answers.

BY MR. LANCASTER:

Q The answers to interrogatories--

MR. JOHNSON:

It is stated that your opinion is --

THE WITNESS:

Let him finish.

BY MR. LANCASTER:

Q --that the problems from which Lucas suffers were problems which preexisted the actual delivery process, as shown by the physical findings and the CAT scan findings at birth. Do I assume that the CAT scan findings that you are referring to are the areas of

periventricular leukomalacia?
A Actually it's the ultrasound and the CAT scan. So, yes.
Q Okay. You also stated that the CAT scans are not consistent with mechanical trauma from the attempted forceps delivery when seen in the light of the facts as testified to by the witnesses. What facts are you referring to there?
A Those are the facts that are reiterated in the chart and what we've already gone over.
Q Well, the facts as testified to by the witnesses, I assume you are talking about the deposition testimony of Dr. Kellum?

A Correct.
Q That he applied moderate traction?
A No, I don't care whether they applied, you know, two thousand pounds. The injury is not consistent with a forceps injury.
Q So, I take it, then, that there are no facts testified to by the witnesses in the depositions, whether it be Mrs. McCarty or Lucas McCarty -- I mean, Chuck McCarty or Dr. Kellum, that you are relying on to say that it was not caused by forceps?
A Yes, they are the facts, but they are the facts in a negative sense, not in a positive sense. In other words, the facts are that this baby was born depressed, had periventricular leukomalacia, all the

other things I went through, which are -- you know, and I can't remember from the deposition what each one of them -- I'm sure Mrs. McCarty didn't talk about those things, as I recall. But, you know, basically the facts that I'm referring to are the facts that really are in the charts that Dr. Kellum would have reiterated.

Q Summarizing your opinion, I take it that it is your opinion that had Dr. Kellum performed a c-section on Elizabeth McCarty at 11:08 that morning, when she was admitted to the labor room, that Lucas' problems would be the same?

A Yes.

Q Is that correct?

A Correct.

Q What is the basis for your charges for serving as an expert in this case?

A You mean how do I come to that conclusion?

Q No.

A . What do you mean? What are they?

MR. JOHNSON:

What are your charges?

BY MR. LANCASTER:

Q What is your rate?

A Oh, what is your rate. I thought you said what's the basis for it. I was trying to figure out -- well, my rate is a hundred and fifty dollars an

hour to review charts and two hundred and fifty dollars an hour for a deposition.

BY MR. LANCASTER:

Q What is your charge for your deposition here today?

A Two hundred and fifty dollars an hour.

Q Which I take it -- we started at 7:00 o'clock. It's going to be like, at this point, an hour and a half?

A Well, it's two hours, right.

Q If we stop -- okay. It's any portion of an hour; is that --

A Well, yeah. I mean, you know --

Q Anything over a half?

A Right.

Q Okay. All right. So, your charges today are five hundred dollars?

A Correct.

Q Okay. What are you charging Dr. Kellum?

A I'm not charging Dr. Kellum anything,

Q What are you charging Whit Johnson?

A A hundred and fifty dollars an hour.

Q The same rate?

A Excuse me?

Q The same rate as you are charging here?

A No, it's at a hundred and fifty dollars an hour,

Q Okay. What are you charging for your trial

testimony?

A Fifteen hundred dollars per day.

MR. LANCASTER:

Whit, can we have -- make the same questions as I propounded to Dr. Morrison?

MR. JOHNSON:

Yeah, attach them.

MR. LANCASTER:

And for the record, I would ask Dr. Chalhub the same questions I asked Dr. Morrison at his deposition which Whit objected to on the grounds that it exceeded the scope of the--

MR. JOHNSON:

Judge's order.

MR. LANCASTER:

--judge's order.

BY MR. LANCASTER:

Q Dr. Chalhub, I have only one final question.

A Okay.

Q What is your prognosis for Lucas' -- of Lucas' condition?

A I believe that his motor deficit will probably not improve very greatly. And his intellect, I think,

is still -- in terms of his ultimate ability to communicate and participate with an environment, is still open to question.

Q You mentioned that you reviewed the life care plan prepared by Dr. Dortch?

A Yes.

Q Did you find any disagreement?

A I really didn't review it from that aspect. I looked at it. I'm not a life care plan expert.

MR. LANCASTER:

That concludes the deposition. I have no further questions.

FURTHER, DEPONENT SAYETH NOT.

CERTIFICATE OF WITNESS

I, ELIAS GEORGE CHALHUB, M.D., do hereby certify that on this, the _____ day of _____ 1991, I have read the foregoing transcript and to the best of my knowledge it constitutes a true and accurate transcript of my testimony taken on oral

deposition on July 18th, 1991.

_____

SUBSCRIBED AND SWORN TO BEFORE
ME ON THIS THE _____ DAY OF
_____, 1991.

_____
STATE OF _____ AT LARGE

C E R T I F I C A T E

STATE OF ALABAMA:
COUNTY OF MOBILE:

I do hereby certify that the above and foregoing transcript of proceedings in the matter aforementioned was taken down by me in machine shorthand, and the questions and answers thereto were reduced to writing under my personal supervision, and that the foregoing represents a true and correct

transcript of the proceedings given by said witness upon said hearing.

I further certify that I am neither of counsel nor of kin to the parties to the action, nor am I anywise interested in the result of said cause.

LYNN ROBINSON-DYKES
COURT REPORTER

CHALHUB DEPOSITION (MCCARTY) 7-18-91

Baby Suffered cardiac arrest from use of forceps

14/23. Cause of childs injury hypoxic ischemic insult during the time between thirt~~eenth~~ yeth and thirty fifth week.

29/10. Does not agree that traction or compression from a forceps delivery can result in an anoxic or hypoxic insult to the fetus.

44/13. Makes his own interpret of MRI's.

54/21. Normal bloodgases inconsistent with someone that suffered a severe traumatic injury.

55/3. he would expect to see a severe metabolic acidosis if causing brain damage.

61/11. In a term infant that has each of oxygen and blood flow as a cause of the etiology (neurodamage) almost invariably involves the cortex, because that's where the cerebral vessels are most vulnerable, not in the periventricular area.

76/8. I'm not a life care plan expert.

DEPOSITION OF ELIAS CHALUB, M.D.
[Estate of Lucas McCarty]

TAKEN ON July 18, 1991
by ALAN LANCASTER, ESQ.

Pg/Ln

12/1 **Virology is a** specialty