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"F"

Duffy

IN THE CIRCUIT COURT FOR THE
THIRTEENTH JUDICIAL CIRCUIT OF ALABAMA
MOBILE COUNTY

CHARLES WESLEY HINKLE, etc., et al.,

Plaintiffs,

VS.

MOBILE INFIRMARY, et al.,

Defendants.

CIVIL ACTION NUMBER
CV-80-001085

CHALMERS

The testimony of [redacted] taken at Cunningham, Bounds, Yance, Crowder & Brown, 1601 Dauphin Street,, Mobile, Alabama, on the [redacted] 1985 [redacted] connencing at approximately 9:00 o'clock, a.m.

APPEARANCES

FOR THE PLAINTIFFS:	CUNNINGHAM, BOUNDS, YANCE, CROWDER & BROWN ATTORNEYS AT LAW 1601 DAUPHIN STREET MOBILE, ALABAMA BY: ROBERT T. CUNNINGHAM, JR., ESQ.
	HOLLAND & TABOR ATTORNEYS AT LAW 141 EAST OHIO STREET INDIANAPOLIS, INDIANA BY: GORDON E. TABOR, ESQ.
FOR THE DEFENDANT - Mobile Infirmary:	INGE, TWITTY, DUFFY & PRINCE ATTORNEYS AT LAW 1300 MERCHANTS NATIONAL BANK MOBILE, ALABAMA BY: JAMES J. DUFFY, JR., ESQ.
FOR THE DEFENDANT - Estate of Dr. James Erwin, Deceased:	ARMBRECHT, JACKSON, DeMOUY, CROWE, HOLMES & REEVES ATTORNEYS AT LAW 1300 AmSOUTH CENTER MOBILE, ALABAMA BY: BROOX G. HOLMES, ESQ.

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A P P E A R A N C E S

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I N D E X

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STIPULATION

It is stipulated by and between the parties hereto and their respective attorneys at law that the deposition on oral examination of the witness, ELIAS G. CHALHUB, M.D., may be taken before Angelia Jones Coxe, Commissioner, Notary Public for the State at Large, and that the said deposition shall be taken in accordance with the provisions of the applicable sections of the Alabama Rule's of Civil Procedure.

It is further stipulated that all notices provided for by said applicable sections of the Alabama Rules of Civil Procedure are waived; as is the signing and certification of said Angelia Jones Coxe and all other requirements and technicalities of wery sort regarding the taking and filing of the deposition, except as hereinafter set out:

All objections save as to the forn of the questions asked are reserved until the tine of trial in accordance with the applicable provisions of the said Alabama Rules of Civil Procedure.

It is further stipulated that the original of this transcript will be filed in accordance with the provisions of the said Alabama Rules of civil Procedure.

It is further stipulated and agreed that the witness hereto reserves *the* right to read and sign said deposition as provided for *by* said Alabama Rules of Civil Procedure,

* * * * * * * * *

I, Angelia Jones Coxe, Commissioner and Court Reporter, certify that on thio date, as provided by the Alabama Rules of Civil Procedure, and the foregoing stipulation of counsel, there came before me at Cunningham, Bounds, Yance, Crowder & Brown, Mobile, Alabama, on the 1st day of March, 1985, commencing at 9:00 o'clock, a.m., ELIAS G. CHALHUB, M.D., witness in the above cause, for oral examination, whereupon the following proceedings were had:

ELIAS G. 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:

EXAMINATION

BY MR. CUNNINGHAM:

Q State your name, please, sir.

A Elias George Chalhub.

Q Dr. Chalhub, you just arrived here at our office a few minutes ago and I believe you were ushered into another office by Mr. Duffy and Mr. Holmes and Mr. Leach and had a conversation; is that correct?

A That's correct.

Q What was the substance of that conversation?

A They asked me if I had read the records, prepared, and that's the substance.

Q Anything else?

A No.

Q Did they ask you about any specific parts of the record?

A No.

Q Did they ask you what else you had read besides the hospital record?

A no.

Q So you were asked one question, and that is, whether or not you had read the record and whether you were prepared?

A No, I'm sure there were other questions. I mean, I can't recall every little thing that they asked.

Q Well, I understend. But it hasn't been 'but about five ninutes ago: What elm were you asked?

A Just various things, you know, vhether I was prcpared, am I ready to give a deposition, you know, those sort of things.

Q You told me about that question. What other questions did they ask?

A There weren't any other, Mr. Cunningham.

Q That's it?

A Pes.

Q Now, what is your opinion as to --

MR. HOLMES: Excuse me. I find I'm not prepared. I need 2 yellow pad.

(Off the record)

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MR. HOLMES: I'm sorry.

MR. CUNNINGHAM:

Q What is your opinion, Dr. Chalhub, as to *the* cause of *Andy* Hinkle's brain damage?

A Do you mean in terns of what the event was, or what are you talking about?

Q I mean what, in your opinion, vas the cause of his brein damage?

A Hhat brain -- what are you talking about in terns of the brain damage?

Q Well, you know --

A Define the brain damage *for* me.

Q Do you know what brain damage is, as a neurologist?

A Well, it's a general tern. But whzt type of brain danage are you talking about?

Q Do you know what brain danage is?

A It's a genera term.

Q Did *Andy* Hinklc suffer brain damage?

A He had a certain type of brain damage.

Q What type of brain danage was it?

A He had a hypoxic ischemic encephalopathy.

Q All right. So when I --

A Is that what you're referring to?

Q So when I say what caused his brain damage, you know what brain damage I'm talking about, because you know what kind ,he had, don't you?

A No, I know what I know it is, but I don't know what you are referring *to it* as.

Q I'm talking about thc'kind he'had.

A Well, but I don't know whether *you* know that.

Q Mell, you don't *worry* about what a know. You just

terms of the type of brain damage and I'll be glad to answer your question.

Q How many types did he have?

A I know that he has one type.

Q Well, that's the type I'm talking about.

A But there's nary types of brain damage.

Q I'm taking about the kind he had.

A Okay. I'm not trying *to* argue with you. I want to answer your questions but --

Q Weil, it sure seems like it. Now, that's not very difficult.

MR. HOLMES: Don't badger the witness.

MR. CUNNINGHAM: Nobody's badgering the witness.

MR. HOLMES: Well, I think you are.

MR. CUNNINGHAM:

Q I asked you what caused Andy Hinkle's brain damage. You know what kind he had. Now, that seems fairly simple.

A Wait a minute, now. I asked -- there are many types of brain damage. It's like saying that people are sick. And if you want to refer to the type of brain damage, that's fine. If you want to ask me what type of brain damage I think he has, then I'll be glad to answer that and then go on and answer your question.

Q I'm going to ask you the questions I want to ask, Dr. Chalhub.

MR. DUFFY: And he'll answer them if he can answer then.

A I can answer then only if I can understand them, Mr. Cunningham.

MR. CUNNINGHAM:

Q I--asked you what caused Andy Hinkle's brain damage, not somebody *else's* brain damage.

A I understand.

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Q All right. What caused *Andy* Hinkle's brain damage?. If you don't know, that's ffne.

A I didn't say I didn't know.

Q Well, what caused it?

A I just asked you to further define your question so we could be specific and accurate.

Q Now, you have told me that you ermined him, and you know what kind of brain damage he had?

A Yes.

Q Right?

A But I don't know what you mean by brain danage. What I mean by brain damage is another thing.

Q I'm talking about the kina of brain damage that he had.

A All right. We've alreacy said — and I'll tell you what I think he had. He had a hypoxia ischemic encephalopathy. And the cause of this hypoxic ischemic encephalopathy was a cardiac arrest.

Q Okay. Is there anything difficult about that answer?

A No. I'd just have *to* know what you are taking about.

Q Well, when I say --

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Q -- I'm talking about the kind that you have described him as having. Okay?

A Yeah. But that's what I think. What you call brain damage is not necessarily what I do. If *you* are talking about sonething else, then I went to know it.

Q I'm talking about the kina of brain damage that you have described'. Okay? Can we agree to that from now on?

A Okay. But you have asked me to describe it, And I'm happy to do that.

the brain damage?

A 'I think there are a nunbcr *of* possibilities.

Q All right. List them for cc, please.

A Now, we're referring to the tine that he vas at the Mobile Infirnary in his room anci on the 22nd at -- after he had cone back fron having a saphenous vein cutdown, and he was in the room ana he had suddenly arched his back, became cyanotic and eccentially had a cardiorespiratory arrest.

The cause of that, I think, are multiple factors,

one of which is probably a metabolic disturbance.

Q Wait a minute. Now, let me be sure you're answering what I asked you. You told me that --

A Well, that's what you asked me. Okay.

Q Now, listen to my question, please. You told me there were a number of possible causes of his cardiac arrest. Did I understand that correctly?

A Probable causes.

Q All right. Probable causes. All I want you to do is list those for me.

A But wait a minute. I have to answer the questions the way I want, not the way you want.

Q Can you or can you not list the probable causes?

A I can list them the way I can answer the question.

Q Well, list them for me. Tell me number one.

A The first probable cause is a metabolic abnormality of either electrolytes or other body chemistries.

Q Metabolic abnormality of electrolytes or other body chemistries. Okay.

A (Witness nods head affirmatively).

Q What's number two?

A Wait a minute. Let me finish, okay? Resulting in a cardiac arrhythmia and cardiac arrest.

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Q What's number *two?*

A Is a vasovagal respnse resulting in a severe sustained bradycardia resulting in a cardiac arrest.

Vasovagal response resulting in severe what?

A Bradycardia

Q Okay. Resulting in cardiac arrest?

A Yes.

Q Now, did you say severe prolongcd bradycardia?

A Yes.

MR. HOLMES: I think you said severe.

A It has to be severe to awe a cardiac arrest,

MR. CUNNINGHAM:

Q Severe prolonged bradycardia, causing cardiac arrest?

MR. HOLMES: I object. Your word was prolonged.

MR. CUNNINGHAM: He used the word. The record will speak for itself.

MR. HOLMES: Prolonged was your word. He said severe.

MR. CUNNINGHAM: He just said he used the word prolonged, too.

A Prolonged — when I am talking about a prolonged

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bradycardia, we're talking about one to two minutes.

Q Okay. Well, all I'm trying to find out is did you or did you not use the word prolonged?

A I used the word.

Q Okay. Vasovagal response resulting in severe prolonged bradycardia resulting in cardiac arrest?

A Cardiac arrest.

Q Okay. Is that the end of number two?

A Yes.

Q All right. What's number three?

A It's possible anomalous coronary artery resulting in some type of cardiac stress or myocardial infarction causing the cardiac arrest.

Q Resulting in cardiac stress?

A Uh-huh.

Q Or what?

A Or myocardial infarction or ischemia to the myocardium resulting in cardiac arrest.

Q Is that the end of number three?

A Yes.

Q All right. What's number four?

A I think those are the only probabilities. Of course, therh are multiple possibilities. But that's what I

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feel was the event which resulted in the cardiac arrest.

Q You feel it was one of those three?

A Yes,

Q Okay. And which of those three do you think most likely?

A Well, I think I nave listed then as one, two and three.

Q In order?

A Yes.

Q Okay. So you think nunber one io nost likely, number two is next nort likely, and nunber three is next most likely?

A That's correct.

Q Now, when did you form *that* opinion?

A That's haru to say. I mean, you know, this is a case that's six years old. So I mean, I can't tell you exactly when. I mean, certainly over the tiae that I took care of Andrew Hinkle and over *the* tine that I reviewed the recoras.

Q All right. Over the time that you took care *of* him while he was at USA and at Mobile Infirmary?

A And subsequenriy.

Q And subsequently? Ail right. And how long did

you care for him after his discharge from USA?

A I believe it was up until the following 1980.

Q Okay'. Did you form these opinions before he vas discharged from USA?

A I'm sure I did. I nean,' it's 'hard to be specific. I can't remember six years..

Q Well, did you have whatever information you needed in order to form those opinions by the time he was discharged' from USA?

A Again, it's hard to be absolutely certain. I mean, there's been so much information acquired. And certainly, in reading other people's depositions that I have not had the opportunity to have talked to and to oee other factors, but I -- you know, essentially my feeling has always beer, that the child had a cardiac arrest. And I feel that these were the nost likely possibilities.

Q All right. Has it been your opinion for the same length of tine thct the cardiac arrest was caused' by one of these three?

A *Yes.* Certainly by nunbcr one.

Q Okay. So you have had thnt opinion since the very beginning?

A Yes.

Q Okay. Now, tell me what you mean by netabolic abnormality of electrolytes.

A Well, when a child has gyloric stenosis *they* will vomit. And they will vooit potassium and acid and chloride. And they tend, wer a period of tiue, to become hypokalemic and also alkalotic. And *this* is the usual pattern.

This young man's electrolytes were -- as they were drawn when he was admitted, were certainly within the normal range, but on the borderline. It reflected an unusual pattern that one sees with pyloric stenosis; that is, normokalemic and a slightly acidotic pattern, and not by any means severely acidotic, just that he had a bicarbonate of twenty or twenty-one ana the nornal being twenty-four, so" mildly, but a little bit unusual for somebody who would have pyloric stenosis.

And this nay reflect that he had lost considerable potassium and may have reflected that he had lost some fluid. And *it* does nake a situation in which the electrolytes are not totally in balance. And it nay not be reflected in the serum chemistries, which means that: even though you obtain them, you *have* to say that, *yes*, thcy are nornal and you proceed in that fashion.

But one always wonders what else could be going on

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in the total body picture.

Q Well, are the lab reports on admission nornal or abnormal?

A I'd have to say they are normal.

Q okay.

A But unusual for *that* condition.

Q All right. And in looking at those lab reports, you recognized that they were unusual for that condition; is that correct?

A Yes.

Q All right. Would you expect a pediatrician to be able to recognize that?

A Yes. I'm sure they did.

Q All right. And is there any treatment available for that type of unusual pattern?

A No. They did — the treatment would be exactly the same. The electrolytes are essentially within normal limits. One keeps in the back of their mind that it's an unusual pattern. You watch them and you watch for changes over a period of tine.

Q All right. How do you watch for these changes?

A Well, you'd repeat them in a reasonable period of tine, four, six, eight hours, depending on how the child did.

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I said unusual pattern, rather.

A Unusual pattern — now, let's clarify that again. I said unusual for pyloric stenosis, but not abnormal, okay? Not abnormal for a child that you would take off the street and admit to the hospital.

Q All right. Well, I'm talking about a child with pyloric stenosis. Now, do you do anything different for one who has this unusual pattern than what you would do for one that does not have it?

A No. It's taking one piece of information in a complicated Clinical situation, You put it with *your* other factors, you evaluate it and then you proceed in a logical fashion.

Q So you don't do anything different?

A Not anything different than was done with this child, no.

Q Well, my question is, you've got two children with pyloric stenosis just like this child. One shows this unusual pattern and one does not. Is there *any* difference in the treatment?

A It depends -- what's the other child?

Q The other child is within normal limits, but does not know show this unusual pattern.

Wait a minute, now. This child is within nornal limits.

Q I understand that. So is the other one, but the other one does not show the unusual pattern and this one does.

A Well, but if they're [illegible] in normal limits, then I don't see what the difference is. Now, the child with pyloric stenosis, the usual run of the mill child, has a hypokalemic, hypochloremic alkalosis. N [illegible] that child differently.

Io there any difference in the treatrent that you would give to a child who came into the hospital with pyloric stenosis who did not reflect this unusua pattern that Andy had?

A You haven't given me all the parameters. Every child with pyloric steno[illegible]s is different. One handles them entirely different on a clinical basis.

(Well, how do you handle this one then?

/ Just as hc was handled. I've already told you that.

(All right. What did *they* do differently in this case than they would have do[illegible] unusual pattern?

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A Well, tell me what unusual pattern that he would have and then I'll tell you what they would have done.

Q The one you just told me about.

A Well, they would have given a different type of electrolyte solution if he was severely hypochloremic or severely alkalotic or severely hypokalemic.

Q Well, was he any of those things?

A I've already said that his electrolytes were normal.

Q Well, you may have to say things more than once in some of your answers because I'm not a doctor. So just bear with me.

A I understand that. I understand that.

Q Okay.

A But we've said it five or six times.

Q Well, you said that his lab reports on admission showed an unusual pattern?

A I said unusual for the clinical condition. And you have to use that whole phrase.

Q All right. Unusual for the clinical condition?

A Okay.

Q Is that correct?

A That's correct.

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And I'm trying to find out if you treat that unusual pattern any differently than you would if he didn't have it.

A Well, again, I'll say no. You'd treat it just as these --

Q Just the cane?

A As -- well, just as these physicians treated this particular case. Every single case in medicine is an individual case. You have to consider all of the factors.

You have to consider the age of the child. You have to consider the condition, you have to consider the status. Then you practice medicine based on all of those factors. You don't take one isolated factor and treat it.

Q All right. Let me see if I can ask it a different way.

I want you to assume everything is the same, okay, and you have two children --

A Now we're talking hypothetically, unrelated to this case?

Q Exactly. sure.

A Okay.

Q That everything is exactly the same with the exception of the unusual pattern that you see in Andy's case.

Now, is there any difference in treatment?

MR. HOLMES: I think he's answered that,

A I don't think I understand the question.

MR. CUNNINGHAM:

Q Well, you said everybody's different. I'm trying to put them all the same with one exception, the unusual pattern.

A What is the other child's pattern? If this one -- if they are the same *except* for the -- do they both have the unusual pattern? I don't understand your question.

Q so you say that what was done in case was appropriate in every respect?

A Per the clinical data that was available, *yes.*

Q All right. Well, is there any way to treat a child such as Andy Hinkle who went on to suffer a cardiac arrest, you think from this metabolic abnormality, is there any way to treat them to try to avoid them arresting and suffering brain damage?

A Not *to* my knowledge. Let me give you the analogy. It's just like somebody walking around with known coronary artery disease. You can't keep them in an intensive care unit until they have a cardiac arrest. They suddenly have a cardiac arrest because it happens. Nothing *is* particularly

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abnormal.

They have an underlying condition. He's in the hospital, he's having what is being done to treat the condition. He has a complication which is totally unavoidable, unforeseen and unpredictable.

Q And that is the cardiac arrent?

A Yes.

Q Well, is cardiac arrest from a netabolic abnormality of electrolytes totally unpredictable end totally unforeseen?

A In certain situations, it is, yes. In certain situations, it's not. If the potassium was a level of one point five, then they would be highly concerned and they more than likely would have replaced the potassium.

Q You read Dr. McAtee's deposition, didn't you?

A Yes, I have.

Q All right. Do you degree with him that the child rras severely dehydrated on admission?

A That's a long deposition. Why don't we -- you know, let's get it out an6 talk whet you want to talk about and which pages.

Q I'm talking about what I want to talk about.

A Well, I don't -- you know --

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MR. HOLMES: Show him which page.

MR. CUNNINGHAM: No, I'm not going to show him page

Did you read in the deposition where Be said that?

Well, I reau a lot of things, Mr. Cunningham.

I didn't ask you about a lot of things. I said --

Wait a minute, now.

-- aid you read in the deposition where he said that?

A Do I get to finish my answers or do I not?

Q Well, we're going to be here until midnight unless you answer my questions.

MR. WFFY: We won't be here until midnight.

MR. CUNNINGHAM: Yeah, we will!

MR. DUFFY: We'll walk out of here right now.

MR. CUNNINGHAM: No, we won't.

MR. DUFFY: We sure will.

MR. CUNNINGHAM: He's not answering the questions.

MR. DUFFY: This is my witness and I'll do as I please. Now, you've bccn harassing him since you asked him his name.

MR. CUNNINGHAM: He has been evasive from day

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one.

MR. DUFFY: He has not been evasive,

MR. CUNNINGHAM:

Q Now, I'm asking you a simple question.

MR. DUFFY: What he is trying to do is to ovoid your putting words into the record and then having them misconstrued.

MR. CUNNINGHAM: He's trying to avoid answering questions.

MR. DUFFY: He wants this record to read properly.

MR. CUNNINGHAM:

Q Did you or did you nor read in the deposition where Dr. McAtee said the child was severely dehydrated?

A I'll have to say -- there were so many entries, and Dr. McAtee would say one thing, you would- add more superlatives ana then ask him to agree. Sa show he exactly where you arc talking about, and I'll be glad to comment on it.

I'm not trying to be evasive. I'm not trying to be difficult. I want; to be accurate, Mr. Cunningham.

Q My question to you, again, is, did you or did you not read in the record of his deposition where he said

anywhere that the child was severely dehydrated?

A I don't recall him saying that this child was severely dehyarated. I recall you saying that he was severely dehydrated.

MR. WFEY: The first mention of it --

MR. CUNNINGHAM:

Q And you don't recall him saying it?

A So if you will show it to ne --

MR. DUFFY: -- he said it was marked --

A -- I'd like to look at it and --

MR. DUFFY: -- dehydrated, markedly dehydrated.

A -- then I'll go along with it. That's a four 'or five hour deposition.

MR. CUNNINGHAM:

Q I'm asking you a very simple question.

A That's a four or five hour deposition. .I can't tell you everything without -- from memory. And this is not a memory contest.

Q I'm not asking you everything.

A Well, yes, you are.

Q I'm asking you one simple thing,

A Well, then, why don't you just show it to me?

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Q I'm asking you whether or not Dr. McAtee indicated in one way or the other in his deposition that the child was severely dehydrated?

A I can't answer your question.

Q Okay, You don't know?

A No. I didn't say that. If you will show it to me, then we can answer the question.

Q You do know, but you are not going to tell me; is that it?

A No, I didn't say that. I want to be accurate. So show me where it is and I'll look at it.

Q I'm not going to show you anything, Doctor.

MR. HOLMES: You've got the deposition over there.

MR. CUNNINGHAM: I'm not going to show him anything.

MR. HOLMES: Why are you afraid to show it to him?

MR. CUNNINGHAM: I'm not afraid to show it to him. He's afraid to answer the question.

THE WITNESS: No, I'm not afraid to answer the question.

MR. DUFFY: Let's get on with it, because

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we're not going to hang around here and continue this.

MR. CUNNINGHAM: I'll tell you this. I'm not going to sit here all day and let him evade every question I ask.

MR. DUFFY: We're not going to sit here all day, period.

MR. CUNNINGHAM: Yeah. Well, we'll see.

MR. DUFFY: We sure will see.

MR. CUNNINGHAM:

Q Doctor, how many medical malpractice cases have you testified in?

A Over what period of tine?

Q Since the day you were born.

A By deposition or in court?

Q In court.

A I testified in three cases last year.

Q 1984?

A Yes.

Q All right.

A Two or three the year before. And I don't think; I have been in court other than that.

Q All right. So when you say the year before, two or three in 1983?

A That's right. To the best of my knowledge. I mean, I can't be --

And to the best of your knowledge, you never testified in court prior to that time?

A I may have. I certainly testified, you know, with child abuse cases and etcetera.

Q Well, I'm talking strictly now about cases that relate to issues of medical negligence, whether it be a hospital, a doctor or whatever.

MR. DUFFY: Where he's been involved as a treating physician?

MR. CUNNINGHAM: No. No. Where he has testified in court, we're talking about right now.

MR. DUFFY: Well, I'm asking to clarify.

A Some or those are treating physicians. Some of those are as other. I mean, I can't --

Q Okay. All right, -- before '83?

A I mean, I can't -- I don't want to be held, you know, absolutely accurate. I mean, that's within the range. Okay? It may have been, you know, one or two cases either way.

Q May have been one or two more or one or two less?

A That's right.

Q Okay. But none before 1983?

A Again, you know, it may have been one. But certainly it's not any more than that, or two. Pou know, it's just -- you know, I just did not testify in court.

Q You what?

A I just did not testify in court a great deal. And I still don't testify in court a great deal.

Q All right. Now, let's take tlic 1563 cases. Tell ne the names of those cases.

A I really don't know them.

Q well, tell me the physicians involved.

A I don't know those, either.

Q Tell me the medical institutions involved.

A Probably the University of South Alabana, and it's either Providence or Mobile Infirmary.

Q Tell ne the patients involved.

A You know, you didn't ask me to cocc prepared to do this. So i can't -- to be acccrate, I can't do it. I mean, I'll tell you the ones in 1984 because I can remember thoce.

Q Well, I'm going to talk about the ones in 1903 right now. Do you know the names of any of those patients?

A Bo, I really don't.

Q All right. Tell me, did you testify in State

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Court or Federal Court?

A I think they were all in State Court.

Q All right. Who was the lawyer representing the medical provider?

A Do you mean in 1983?

Q 1983 is what I am taking about.

A Again, I can't -- to be accurste, I can't tell you.

Q Was it anybody in Mr. Reeves firm?

A I don't know.

Q Tell me what the cases involved in 1983.

A Again, I don't know which ones they arc, Mr. Cunninghm. If I dic, I'd be glad to tell you. I have nothing -- you know, no problm in telling you: I just don't know which ones they were in 1983.

Q You don't remember anything at all about them except that you showed up at the courthouse?

A 'I don't know which cases thcy were. So I can't tell you the specifics. I'm not trying to be evasive. I just don't know.

Q All right. For whom did you testify in those cases?

A The -- do you nean which side?

Q Yeah.

MR. HOLMES: Who was he called by?

MR. CUNNINGHAM: He was getting ready to answer it, so apparently he understood what I was talking about.

MR. HOLMES: Well, I think there's a difference between being called as an expert and a treating physician.

MR. CUNNINGHAM:

Q Who did you testify for?

MR. HOLMES: Go ahead.

A Yeah. You know, again, since I don't know the cases, I can't tell you whether I was the treating physician or an expert. And I think those cases were all for the defense.

MR. CUNNINGHAM:

Q Okay. And were you paid for your testimony?

A Certainly.

Q Who were you paid by?

A The attorneys that retained me.

Q Okay. Were the physicians involved, if any, insured by the Mutual Assurance Society of Alabama?

A I don't know, since I can't tell you which the

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cases were.

Q All right. But you testified for the defense on those cases in 1983?

A Yes.

Q And I take it you testified that all the doctors involved did everything right?

A No, I don't know what-I -- you know, since I can't tell you the cases, I can't tell you what I testified on.

Q Well, do you —

A I mean, nobody does everything right.

Q Do you remember whether or not you told them that any or the local physicians involved in these cases were negligent in their treatment of the patient?

A If I was testifying for the defense, I probably did not say that.

Q Okay. Now, let's take your 1984 cases. Let's start with the first one. Tell me about that one.

A That was a case of -- well, I guess that wasn't a -- thet was a products liability case of a polio vaccine in whicn I testified for the plaintiff.

Q A products liability case?

A Yes. It was a child who had received polio as a result of obtaining the vaccine:.

Q All right. What I am interested in are medical malpractice cases.

A Okay.

Q Now, tell me what medical malpractice cases you have testified in in 19843

A I testified as a treating physician in the case of a gentleman with a trigeminal neuralgia.

Q Who wits the defendant in that case?

A The man -- it's a man from Atmore. I can't remember his name.

MR. DUFFY: No, you —

MR. CUNNINGHAN:

Q Was it a doctor?

A I'm sorry. The aefendant. Excuse me. Robert L. White. Excuse ne. I vas confused.

Q Ana who represented Dr. White in that case?'

A I&. Defy.

Q All right. Ana did you testify that Dr. White acted consistent with the standard of care in his treatment of that patient?

A Yes, I did.

Q What had happened to that patient?

A He had had trigeninaf neuralgia and had had pain

and was having a percutaneous procedure to relieve the pain. And the pain apparently, you know, according to Dr. White, shifted. And he did the side that he thought the pain was on.

Q Actually what happened was he operated on the wrong side, didn't he?

MR. DUFFY: That's not a correct statement. Move to strike it from the record.

MR. CUNNINGHAM:

Q Wasn't it the plaintiff's contention that he had operated on the wrong side?

A That was the plaintiff's contention.

Q And you testified that even if he did operate on the wrong side, it didn't make any difference; is that right?

A No.

MR. DUFFY: That's not a correct statement.

A I don't think I said that, Mr. Cunningham.

MR. CUNNINGHAM:

Q What was the next case?

A That was -- let's see. I think maybe it was two cases instead of three. The next case was a child with meningitis.

Q What was the name of that case?

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A It was Brian Horton.

Q Who was the lawyer that called you to testify in that case?

A Mr. Reeves,

Q And did you *testify* in that case that the defendant physician treated the patient consistent with the standard of care?

A Well, that's what the facts revealed. And in my impression, that's what he did.

Q And that's what you testified to?

A Well, that's what the facts revealed.

Q It was your opinion that that's what the facts revealed; is that correct?

A That's correct.

Q Okay. And what was the condition of that child?

A The child expired.

Q From what?

A From a cardiopulmonary arrest and shock.

Q Secondary to what?

A Secondary *to* sepsis.

Q Secondary to what?

A Well, I mean, bacteria in the blood.

Q Okay. Did the child have meningitis?

A Yes.

Q Okay. What was the next case?

A I think that's all, to the best of my recollection.

Q All right. Now, have you given depositions in caees where you have been called to *testify* that relate to medical nalpractice?

A Yes.

Q All right. How many did you give in 1984?

A Probably three or four.

Q All right. Tell me whet Cases.

A You know, it's going *to* be hard. I mean, I just can't relate all these cases *by* memory. I mean, some of them are rclatea to these court cases here.

Q The ones you gnvc ne or Dr. White end —

A And there are -- sone of then were for plaintiff's attorneys, and sone of then were for defense attorneys. So I can't --

Q Which ones were for plaintiff's attorneys?

A The -- well, maybe *that* was in -- that vas a case from Little Rock, Arkansas.

Q All right. Who was the lawyer that consulted you?

A Sidney McMath.

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Q Did you know him before he called you or before he contacted you?

A No.

Q All right. Where did you testify?

A Here in Mobile.

Q By deposition?

A Yes.

Q All right. And did Mr. McMath represent the plaintiff?

A Yes.

Q What were the allegations in that case??

A There were allegations that the treating physician, who was an obstetrician, inflicted inappropriate trauma on the delivering child.

Q How?

A Well, by doing an inappropriate delivery.

Q Well, was it a forceps delivery or what was it?

A Well, you know, I can't tell you all the specifics.

Q okay. Well, did you testify in that case that this doctor -- was it a doctor in Little Rock or one down here?

A I think in Morrilton, Arkansas.

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Q Okay. Had you ever been to Morrilton?
A Yes.
Q What was the occasion for you being there?
A I lived in Little Rock, Arkansas.
Q All right. Did you go to medical school there or just live there?
A I was in charge of child neurology at the University of Arkansas.
Q Were you at the University or at Morrilton at the time that the alleged event occurred in the case that you are talking about?
A Yes.
Q All right. Did you have anything to do with the care and treatment of that child?
A Yes.
Q All right. What was your roll in the care and treatment of that child?
A I treated the child for the problems resulting from the injury.
Q Okay. Well, were you called to testify on your follow-up care and treatment of the child, or were you called to testify on behalf of the plaintiff that the doctor had departed from the standard of care?

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A I was called to testify on behalf of the plaintiff that he deviated Iron the standard of care.

Q Okay. And did you so testify?

A Yes, I did.

Q Is that case still pending?

A Yes.

Q Do you *expect* to testify in court in that case?

A If it gets to court, yes.

Q Did you know the doctor?

A No.

Q How much are you being paid in that case?

A Our fees are standard. It's a hundred dollars an hour to review charts and two hundred dollars an hour for depositions.

Q How about for court testimony?

A Same thing.

Q One hundred or *two* hundred?

A Two hundred dollars.

Q Two hundred? How much have you billed so far in that case?

A I don't recall.

Q Don't have any judgment at all?

A No. I mean, I can't, you know, run around with

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all of the cases and the figures and everything in my hcnd, Mr. Cunninghan. I just don't do that. Had you asked me to come prepared, I would hzve been happy to do that.

Q All right. What was the other case you gave a deposition in in 1984?

A A case in Jackson, Mississippi.

Q Who were you contacted by in that case?

A By -- let's see. It's a firm -- I just drew a blank on his name. It's a large firm in Jackson. I'll think of his name in just a minute.

Q Were you contacted by the plaintiff or by the defendant?

A By the defendant.

Q And was the defendant in that case a physician a hospital or what?

A It was a hospital.

Q What were the allegations?

A The allegations were that the hospital neglected to observe a child who was a severely asphyxiated child and that had hyperbilirubinemia, hac an exchange transfusion, was in an intensive care unit and a catheter became dislodged.

Q And what happened?

A The -- well, the child lost a very mall amount of

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blood but then subsequently had a cardiac arrest which was unrelated to the blood loss.

Q That was the opinion you formed after you reviewed the record?

A Yes.

Q I take it that the plaintiff had a different view or that case than you did?

A Yes.

Q All right. But you did give a deposition?

A Yes.

Q Okay. What was the next woe2

A I'm not sure there were any. There may be, but I just can't recall whether there were any other cases. I don't do this very often, Mr. Cunningha;

Don't do what?

A I'm in full time private practice.

Q Don't do what?

A Give depositions very often.

Q Well, have you given a lot nore in the last couple of years than you ever did before?

A Pr'obably the same amount that I have always done over the yenrr.

Q Oh, really? Well, I.thought you said you hadn't

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ever even testified in court before '83?

A I didn't testify in court, but I've given depositions.

Q So you've given three or four dcpositions a year for a nunber of years?

A Probably six years.

Q Okay. And how many of those would be related to medical malpractice cases?

A Three quarters.

Q Three quarters of them? All right. Well, tell me every ocher medical malpractice case, other than the Little Rock case, in which you have testified thzt a physician deviated iron the standard of care or that a hospital deviated from the standard of care?

A Well, I've not given depositions in several. However, there are several plaintiff's cases which I have given opinions in and will testify in.

Q I'm going to ask you &ut that in a minute. I want to take it one step at a tine. I'm talking about depositions now.

A I don't believe there have been any others.

Q Okay. And you've never testified in court that a physician deviated from the standard of cere?

A They just haven't gotten to court.
Q Is that all of the depositions you can recall in 1984?
A Again, you know, since this is, you know, a discovery deposition one can be impeached with, I'll just have to leave it, you know, the fact that I can't recall. Now, there may be some more. And if there are, then I'll stand corrected. I just, you know, can't remember then all.
Q Wait a ninute. I didn't follow you. Since this is a discovery deposition that you can be impeached with, what?
A Well, my testimony can be impeached if I gave you an inappropriate answer or wrong answer. So I just want to clarify the fact that since I cannot recall it, since I was not asked to come prepared, if there were one or two more or one or one less, I don't want to be held responsible.
Q Oh, I understand,
Q That's what I'm talking about.
Q I understand that,
A Okay.
Q All right. Well, you've told me all you can think of, at any rate, for '84; is that correct?
A Yes.

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Q Now, tell me how many you can think of that you gave in '83 in medical malpractice cases? Again, we're talking about depositions.

A Again, I said the same nmber, three or four.

Q Tnree or four? Okay. Tell me vhat cases they involve.

A I really just can't do it. I don't know.

Q Do you have records of this somewhere?

A If they are still pending, then I do. If they're not, then I don't. We throw the files away.

Q So there would be no way for you or *anybody* else to determine how many depositions you gave each year for the last six years?

A I told you how many. Tnree or four per year.

Q Yeah. But you told me you may be off a couple, didn't you?

A Ems it make a lot of difference?

Q It does to me.

A Okay. No, I don't know that there would be any other *way*.

Q All right. All right. Now, tell me how many cases involving issues of medical malpractice *thrt* you have been consulted in? And let's *take* 1984 first.

Q Did you express an opinion by report in that case?
A Yes, I did.
Q And what was your opinion?
A That the physicians deviated from the standard of care in not applying appropriate resuscitative measures.
Q All right. What lawyer did you deal with?
A I don't know. On6 'oh-his group.
Q Okay. And where was that doctor -- where does the doctor practice that you formed an opinion about?
A At one of the Kaiser-Permanente Hospitals, I believe, in California.
Q California? Had you ever practiced at that location?
A No.
Q Are you expected to testify in that case either by deposition or in court?
A I suppose.
Q Okay. Any other plaintiffs during 1984?
A Not that I can recall.
Q Okay. What defense attorneys were you consulted by?
A By Mr. Kecne.
Q Tommy Kecne?

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A Pes.
Q In Montgomery?
A Yes.
Q Did you give an opinion in that case?
A In terns of a report?
Q Yeah.
A No. I may have given-a verbal opinion.
Q All rignt. What was it?
A Let me see if I can remember the case. I really -- it's hard for me to remember enough about the case to give you an accurate --
Q Well, did you tell him you thought the doctor deviated from the standard of care or not?
A I don't think I have all of the records yet. So I can't tell you.
Q All right, What other defense attorneys?
A Mr. Gene Stutts.
Q there is he from?
A He's either from Birmingham or Montgomery, one or the other.
Q And what was your opinion about that case?
A That case, again, was a neonatal infant case in which the child was -- had a low Apgar at birth. And my

opinion was that I did not know what caused the child's problems, but I could not see where there was any deviation from any standard of care.

Q Okay. What other defense attorneys?

A Mr. Tom Stennis in Pascagoula.

Q All right. What was the nature of that case?

A Incidentally, that was — I did give a deposition in 1984. That's the one I could not remember, okay, with that case.

Q With Stennis in Pascagoula?

A Right.

Q Okay. What was that case about?

A That case concerned a child that was — had an absolutely normal birth, normal exam, went home at three days of age and had encephalitis at four months of age.

And the allegation was *that* the child — that the obstetrician had delivered this baby traumatically, despite the fact that the child had Apgars of eight and nine, had normal exam, went home at a normal time, had normal development up until four months of age.

Q All right. And did you render an opinion that there was no deviation from the standard of care?

A There wasn't any. Yes.

Q In your opinion, there wasn't any?
A Yes,
Q Well, in some of these cases sone of these people don't sgree with your opinion] isn't that true?
A I understand. That's true,
Q What other consults in 1984?
A I think that's it. If there is sone more, just can't remember them right now.
Q How about 1983?
A I'm sure it's *the* same number. But again, that's two years ago. I just can't tell you.
Q Well, ciid you consult with *any* Nobile deferne.. attorneys in 1984?
A Only the ones I have told you about, Mr. Reeves and Mr. Durfy.
Q All right. Those were the only ones?
A Do you mean in terms of cases? Oh, I — yeah. I mean, I'm sorry. There *is* snother case of Bridgett Roberts, but I've never given a deposition. I've consulted with Mr. Reeves in that case.
Q What is that case about?
A That's a child abuse case.
Q Well, docs it involve medical malpractice or

allegations of medical malpractice?

A Yes.

Q Okay. Did you testify by deposition or just consult with him?

A I think I just -- I'm trying to -- I don't know whether I give a deposition in that case or not.

Q Who was the defendant in that case?

A Bertucci.

Q Did you testify in court in the case?

A No.

Q And you don't know whether you gave a deposition?

A I can't really remember. I don't think I did in thet case.

Q Okzy. Any other Mobile atrorneys that you now recall having consulted with in '84?

A No.

Q All right. Now, you say you think you had about the -- nmber in 1963, consultations?

A (Witness nods head affirmatively).

Q How many did you have with plaintiffs' lawyers?

A I don't recall how many it were.

Q Any?

A I'm sure there were some. I mean if -- you know,

if -- I don't know.

Q Okay. . .

Q *19821*

A It's *too* far away.

Q All right. Have you had occasion to consult or review records for any insurance company on issues of medical negligence?

A Yes.

Q What insurance company?

A St. Paul's.

Q Any other?

A No.

Q All right. How many times have you had occasion to review records for St. Paul's?

A Two occasions.

Q When were those?

A Just -- either late 1984 or 1965.

Q And how did that come about? Who were you contacted by?

A One of their claims representatives.

Q All right. And did you submit reports on those cases?

A Verbal reports.

And did you conclude that there were any deviations from the standard of care?

A I think both of then, I don't have all of the information yet.

Q All right. Any other insurance company that you have consulted for involving nedical negligencc?

A No.

Q Are you on a committee of any insurance company that reviews cases?

A No.

Q Do you hold any position with any insurance company other than a3 an insured?

A No.

Q Either official or unofficial, any kind of capacity other than just being an insured?

A That's it.

Q Okay. Are there any other cases that you have been consulted on where you have been named as an expert witness by the defense, someone who they expected to call to testify?

A I suspect only the Bridgett Roberts case.

Q Okay. You aon't know of any others?

A Well, I mean, if I do, I can't recall then.

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Q Okay. How about one over in Mississippi involving a spastic quadriplegic child who suffered from spinal meningitis, do you have a recollection about that?

A That was the case that you were involved in. Yes.

Q Yeah.

A But I didn't give a deposition. But I guess he was named in that case.

Q And you're expected to testify in that case sometime in the future; is that right?

A I thought the case was over. But I -- you know --

Q Well, if it's not over, do you expect to testify in that wse?

A Nobody's contacted ne, so I don't know.

Q Okay. Have you ever had occasion to testify in the State of Alabama that a physician who lived and practiced in the State of Alabama deviated fron the standard of care?

A I don't think I havc been asked.

Q Well, have you evnr done it, even though you may or may not have been asked?

A No.

Q All right.

A I mean, I'm Sure, if I were asked, and that was the case, that I would have to give an honest opinion.

Okay. Do I understand, then, that if you were asked to testify against a doctor here in Mobile, and if you were of the opinion after reviewing the records that that doctor had deviated from the standard of care, that you would have no hesitation whatsoever to testify?

A That's correct.

Q All right. Well, have you ever had occasion to bring pressure to bear either directly or indirectly against another physician who was expected to testify against a local doctor?

A No.

Q Never have?

A No.

Q All right, sir. Have you ever gone to the superior of a doctor who was expected to testify against another Mobile physician and had a discussion with that doctor's superior in an effort to bring pressure to bear on that doctor?

A No.

Q Have you ever suggested to a doctor who was expected to testify in a medical malpractice case against a local doctor that it would not be good for his career to do that?

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A No.

Q Never said that to anybody?

A No.

Q Okay. nave you ever conveyed f r a one doctor to another doctor who was expected to testify against a local physician that he should understand that it would not be good, for his career to do that?

A What are you referring to, Mr. Cunningha?

Q I'm asking you if you nave ever done that.

A The -- I think the case that you arc referring to was in Judge Rittrell's court in which I vas accused of that. Bowever, we were investigated by the DA and there were no allegations made.

Q Well, my question is, did you ever do that?

A No, I didn't.

Q You did not?

A No. That's correct.

Q All tight, sir. Now, have you ever expressed an opinion that medical malpractice cases should not be brought by plaintiffs?

A Do you mean just in discussion or in print or what?

Q Just in discussion, or in print.

A . No. I think everyone has the -- you know, the justified right to bring suit if they feel that there &as been harm.

Q Okay. And you've never made a contrary statement?

A Not to my knowledge. I nean, I would do the same thing if I thought harm was inflicted on me.

Q Okay. Have you ever made the statement that lawyers who represent plaintiffs in malpractice cases were destroying the medical profession?

A No, I don't think so. I think that honest, conscientious lawyers that review cases appropriately, there obviously is a place for that.

Q So you've ncver made a statement to the effect of that that I just nentioned?

A No, not to my knowledge, no.

Q Well, you smile when you say chat..

A No, I'm not smiling.

Q Okay. So you've never said that?

A Well, not to my knowledge, no.

Q Have you ever nade a statement to the effect that lawyers who represent plaintiffs in medical malpractice cases are taking money out of the pockets of physicians?

A No.

Q Never made a statement to that effect?
A No.
Q Okay. When were you first contacted about this case?
MR. HOLMES: Do you mean for treatment or ... what? Do you mean for treatment or --
MR. CUNNINGHAM:
Q Let me put it this way. When were you first contacted about being an expert witness in the upcoming medical malpractice trial?
A Sometime in 1984.
Q Okay. Who contacted you?
A Mr. Duffy.
Q All right. How were you contacted?
A By telephone.
Q Tell me the substance of the conversation.
A He stated that I was the treating physician who took care of Andrew Hinkle and asked me if I would review the chart and give him an opinion as to what I thought happened to the child.
Q Okay. And did you review the chart?
A Yes, I did.
Q How did you receive the chart?

A With copies from Mr. Duffy's office.
Now, that was when in 19643
A I'd have to go back and look at the exact -- I suspect either in the spring or the summer of last year, at the time that it was apparently going to court before.
Q All right. Now, prior to that time, how long had it been since you had reviewed Andy Binkle's chart?
A I guess since the fall of 1900 when he left to go to Father Walter's Hae.
Q So at least three years than?
A Yes.
Q After you had that initial conversation and got the chart, tell me what you next did.
A You know, I reviewed the chart and reviewed all of the depositions which accompanied it at that time.
Q What depositions did you review?
A I can tell you how many I reviewed up until today, I don't know at that time how many -- you know, which ones --
Q All right. Tell me what you reviewed up until today.
A I've got my list prepared --
Q Go ahead.
A -- so we could be accurate. Francis Mason, Nell

Maisel, Charles Lilly, Debra Ayres, Richard Glascoe, Sharon Gaston, Jessie Fogarty, Madelyn Bivins, Carmen Anderson, Phyllis Wells, Peter Bertucci, Nancy Mitchell, Patricia Wallace, Yolanda Spicer, Shirley Roberds, Wesley Hinkle, Debra Hinkle, Carolyn Matthews.

Q John McAtee?

A John McAtee. Excuse me.

Q All right. Now, which of those did you get most recently?

A Well, the ones that were given most recently, John McAtee and Dr. Bertucci.

Q Okay. So you hac all the other ones back in 1984 when you --

A I guess. I mean, i don't know which ones I Aaa then or not.

Q After you reviewed those, what took place next insofar as your contact with Mr. Duffy?

A I net with Mr. Duffy.

Q And what did you tell him?

A Well, we discussed the case and I gave him my opinion.

Q What opinion did you give hin?

A Well, the one that I expressed to you.

Q Same one, two, three?
A I don't recall whether it was one, two, three. We discussed a lot of the aspects of the case and -- but that was the basic conclusion.
Q All right. Now, prior to that time, I take it you had held the same opinion essentially?
A You know, give or take, you know, certain facts that were not present at that time. I mean, obviously, a case continues to evolve. And as more facts come through, one has to assess those.
Q Well, did you ever prior to 1984 have on your list of probabilities something that you haven't told me about that you have now removed from the list?
A You know, I don't know whether I did or not. I mean, my notes would have to reflect that. If I did, then obviously I've removed -ED.
Q Well, tell me what other probabilities you had on your list at some other point in time, if you did?
A I don't think I did.
Q Okay. Is there any other information that you felt like you needed in order to reach the opinion that you have told me about?
A No. You know, I think that there was just more

accurate observation in some of the depositions by the Hinkles and by some of the nurses which I just wasn't aware of because I didn't have an opportunity to talk to everybody.

Q Was aspiration of barium ever on your list?

A As a cause of this?

Q Yes.

A No.

Q Never has been?

A No.

Q Okay. You never considered that as a possible cause of this child's problems?

A Yeah, certainly I considered it. But there was no barium in the lungs.

Q Okay. So did you immediately rule that out as a possibility?

A Well, I mean, I think it is ruled out. If there's no barium, there's no barium.

Q My question is, did you immediately rule that out as a possibility?

A Yes.

Q Okay. So you thought about it then ruled it out because there was no barium in the films?

A Yes.

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Q Okay.

A Could we just take a short break for just a minute?

MR. CUNNINGHAM: Sure.

(Short Break;)

MR. CUNNINGHAM: How about reading back that last one for me.

(Previous question and answer read back by the reporter.)

MR. CUNNINGHAM:

Q Now, did you have any contact with any other attorneys about this case other than Mr. Duffy?

A Yes. Mr. Holmes and Mr. Leach.

Q All right. When did you talk with them?

A Sometime during the summer.

Q All right. Where did that conversation take place?

A In my office.

Q All right. How did you happen to be talking to then?

A Well, because they asked me if they could talk to me.

Q All right. Tell me the substance of that

discussion.

A It was similar to Mr. Duffy. In fact, I think Mr. Duffy was at the same meeting.

Q What do you mean it was similar?

A Well, I mean, I expressed the same things.

Q Okay. Did you discuss the subject of whether or not the stomach should have been emptied of barium?

A I don't recall that they asked me that.

Q Okay. Well, was it the standard here in Mobile in August of 1376, when you did an upper GI on an infant with pyloric stenosis, to empty the stomach of barium?

A The standard by the radiologists?

Q Yeah.

A The -- you know, no, I don't think so. I think that everybody -- I mean, there are multiple ways to do it. And I don't think that there is any standard in terms of emptying the stomach of barium as long as it will go through.

Q Okay. Have you ever expressed the opinion or made the statement that it was standard to empty the stomach of barium?

A Have I?

Q Yes, sir.

A No.

Never have said that to anybody?

A NO.

Q Okay. And you never have talked to any other lawyers about this case?

A NO.

Q At any time?

A Not to my knowledge.

Okay. When did you first see Andy Hinkle during the course of his care and treatment?

A Can we get the -- I'd just have to be accurate about the date. Can we get that?

MR. CUNNINGHAM: Have you got a set he can look at?

A 8-23-78.

Q And how did you hsve occasion to see Andy on that date?

A I was asked to see him by one of the physicians, whether -- I think it was Dr. Roberts or Dr. Erwin. I can't remember.

Q Okay.

A We could look at the orders if you want.

Q Prior to that time, had you seen him at all?

A No.

Q Hadn't been involved in any way in his care and treatment prior to that time?

A Not to my knowledge.

Q At the time you were consulted in this case, did you have any conversations with the treating physicians concerning the events surrounding his cardiac arrest?

A Again, that's six years ago. I don't know whether they called me on the phone and told me what happened or whether it was a consult written and I went to the hospital. I really can't recall.

Q Okay.

A I mean, I know I talked with them afterwards. I saw the patient.

Q Okay. Do you recall discussing with any of the treating physicians the subject of laryngospasm?

A You know, I'm sure, since that was a_____ consideration, we did discuss it. You know, again, I can't recall specifically.

Q What role, if any, in your opinion, did laryngospasm play in this child's arrest?

A What do you mean by what role?

Q Did it have anything at all to do with it? Did he have laryngospasm?

A NO, I don't think Le manifested any of the clinical manifestations of laryngospasm.

Q Okay. Is laryngospasm caused by a metabolic imbalencc of electrolytcs?

A Yes, I suppose it can be,

Q Okzy. And if it is caused by that, what course would you expect to sae the laryngospasm to take?

A Are we talking hypothetically, unrelated to this wse, just ordinary laryngospasm?

Q Yech. Caused by metabolic imbalance.

A Okay. Which metabolic imbalance are you referring to?

Q Metabolic abnormality of electrolytes like the one you believe caused this problem.

A No, it doesn't do that.

Q Doesn't do that?

A Hypokalcemia can cause a laryngospasm, but this child didn't have hypokalcemia.

Q Okay. So tne kind of netabolic abnormality that you told me about earlier you would not expect to produce laryngospasm?

A No.

Q How you aboct vasovagal response resulting in

severe prolonged bradycardia, would you expect that to produce laryngospasn?

A I wouldn't expect it. But I mean, if it's stated that it occurs, I suppose anything is possible.

Q Okay. How about a possible anomalous coronary artery resulting in cardiac stress or myocardial infarction, would that produce laryngospasm?

A No.

Q All right. Now, why were you called in to see Andy?

A Because the child had suffered a cardiac arrest and had -- was having seizures anti was comatose.

Q And did you say that the type of brain damage he had, in your opinion, was anoxic encephalopathy?

A Yeah. I believe I used that term. And I use a number of other terms interchangeably, hypoxic ischemic or hypoxic.

Q Tell me what the tern anoxic encephalopathy means.

A It means lack of oxygen going to brain, and often lack of blood flow, resulting in a diffuse involvement of the central nervous system.

Q All right. Did Andy, in your opinion, suffer a respiratory arrest?

A They usually go hand in hand, yes.

Q Did he suffer cardiac arrest before or after the respiratory arrest?

A Well, that's a difficult question. But by taking and putting all of the pieces together with the family's observation and the nurses observation, my opinion is that he suffered a cardiac arrest then a respiratory arrest.

Q Okay. And when he suffered the cardiac arrest, would that mean that the heart woula not be pumping blood 'to' the brain?

A That's correct.

Q Ail right. Under that circumstance, how long would you expect it to take to proauce the kind of brain damage that he had, in an infant like Andy?

A So we're talking about Andy?

Q Right.

A Correct? And in this situation, you know, I don't think there are any absolute figures, Mr. Cunningham. All we can do is extrapolate fron animal data. And young children and young animals can sustain periods of hypoxia and ischemia for an extended period of tine without necessarily having permanent brain damage.

The -- so, you know, it's not a similar situation

as to adults. Now, whether it's five minutes, ten ninutes, twenty minutes, again, it depends on the mount of blood flow. It depends on the mount of lack of oxygen. It just depends on a nunber of variable factors.

Regardless of the mount of tine -- which in this case, it has to be more than a -- you know, second or minutes, because young infants can tolerate it a great deal longer. And, you know, the animal data vhich is extrapolated and I think the best study is by Mr. Duffy and -- I mean Dr. Duffy and Dr. Venuchi - no relationship - in which newborn rats can tolerate periods of hypoxia by breathing nitrogen up to twenty minutes.

And while you can't necessarily extrapolate animal data to human data, we can make some correlation.

Q Okzy. Well, I understand you can't be exact, is there a range that you would give?

A You know, again, it depends. There's no way to know, because you don't know how much lack of blood flow and how much lack of oxygen occurred and over what period of tine. Whether, for example, in this particular situation, had he been -- become bradycardic for several minutes, okay.

And then the first clinical manifestation would have been a cardiac arrest, because they don't necessarily

stop breathing. So that may well have been the case. And it may have been three, four or five minutes.

The other situation would be that he had a cardiac arrhythmia. It takes anywhere from, you know, a minute to two minutes to have lack of blood flow going to the brain. Whether that results in permanent brain damage depends on how quick the resuscitation occurs.

Q All right. Well, if you have a prompt resuscitation that's properly done where you've had bradycardia in a child like Andy, less say for two minutes, with a cardiac arrest, would you expect to see brain damage?

A You certainly can, sure.

Q All right. Would you expect to see it to the extent that Andy had at?

A Yes.

Q All right. And that statement would be supported by the literature, I take it? —

A Yes.

Q Okay. How much time, in your opinion, elapsed between the time of Andy's cardiac arrest and the time that Andy suffered the anoxic encephalopathy?

A Now, the anoxic encephalopathy is the term referred to the clinical condition at a period of time after

two os three ninutes of bradycardia then an arrest and an immediate prompt and proper resuscitation, tell me how that infant suffers severe brain danage?

A Okay. So you're asking what the mechanism is that occurs?

Q Yeah.

A Okay. Well, you know, if *it's* my hypoxia, okay, or just lack of oxygen, then it would be unlikely that that would have occurred in this case. And —

Q That what would have occurred?

A That there would have been any significant brain damage. But most certainly -- and we have *it* verified in here chat *the* child suffered ischemia by the subsequent brain damage. And that's lack of oxygen and blood *flat* - and that's the key - going *to* the brain:

When the blood flw does not *go* to the brain for even a period of one, two, three ninutes, then the brain suffers irrepairable damage. And that irrepairable damage is when the endothelial cells of the blood vessel swell. And then there's extracellular potassium which also contributes to tho swelling. And then the glial cells swell, and *you* cannot re-establish blood flow even if you are there pumping on the heart or giving any type of extra cardiac support.

It's called the No Reflow Phenomenon of Ames. And it's a very common situation. And that accounts for why some people who have suffered cardiac arrest who appear to have paramedics there or competent people there and they do an appropriate resuscitation cannot necessarily make a person free of injury.

Q Well, now, let me be sure I understand what you are telling me. Is it your testimony that he suffered the brain damage after the resuscitative effort and after his heart rate had been established?

A No. I mean, you suffer the injury to the brain - and let's again be specific - the hypoxia and ischemia, causing the brain, not just -- I don't like the term brain very much.

Q When did he suffer that injury to the brain?

A When he lost the oxygen and the blood flow to the brain, when he had his cardiac arrest.

Q All right. Well, doesn't that have to persist for some period of time before it causes damage to the brain?

A Yeah. It's variable. It did persist for some period of time.

Q Okay. And I believe -- was the range you gave earlier -- I thought you used the term up to twenty minutes?

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A That's in rats.

Q Well, how about in people?

A I don't think we know that. All we can do is correlate it. I can tell you from twenty years of practicing neurology and seeing babies, seeing hypoxic ischemic encephalopathy, that it can occur anywhere from one to two minutes up to twenty minutes to thirty minutes.

Again, it depends on the host, the situation and a nunber of other factors. And if you had all those numbers you could plug in, I could give you a specific answer. But we don't know-when people have cardiac arrest, such as in this case, it's not anticipated.

to see brain damage, if not resuscitated, within X number of minutes?

A No, not that I know-of."

Q You wouldn't expect to see that anywhere?

A I'm not aware of that data.

Q Is there such a range given in adults?

A I mean, there's always a range. But I don't think there's any textbook that will tell you if X perron is without oxygen and blood flow for a period of tine what type

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of brain damage he suffers. I don't know of that text.

Q Will the textbooks give you a range where a person suffers anoxia for X number of minutes, you can expect to see brain damage?

A Not anoria. Not just anoxia, If you want to say just anoxia, then fine. It may be five, ten, fifteen, twenty minutes. But if it's anoxia and ischemia, then it's a much shorter period of time.

Q Okay. Then explain to me the difference between anoxia and ischenia.

A Okay. We'll do it one more time. Anoxia is lack of oxygen going to the brain. Okay. Ischenia is lack of blood flow. And those are two very different things. You can be hypoxic or anoxic without being ischemic, such as people with chronic obstructive pulmonary disease.

Q Well, okay. In your judgment, was -- Andy's cardiac arrest produced ischemia --

A Yes.

Q -- and anoxia?

A Yes.

Q Okay. Well, if the heart rate is immediately restored, doesn't that relieve the problem of ischenia?

A Well, yeah. It relieves the problem, but the

damage had already been done. That damage to the endothelial cells io unpredictable.

Q Is that done immediately, then?

A Yes, it is. BOW, some children ana sone individuals may not have the response another individual doer. Me don't know what makes that biological variability. It's like an individual that has a heart attack and he's resuscitated successfully, and the next person in which they do exactly *the* same thing is not resuscitated successfully. I don't know how to tell you what the difference is,

Q All right. Do you have reported cases in the literature that you are familiar with where a child with pyloric stenosis suffers a cardiac arrest and is immediately resuscitated, properly resuscitated, and suffers the kind of brain damage *Andy* did?

A Hypothetically and unrelated to this case?

Q No, I'm asking you about case reports in the medical literature.

A You know, the British Medical Journal in the early '40'S and early '50's have a nunbcr of cases of complications of pyloric stenosis. I'd have to go back and pick out a single case of somebody that had a cardiac arrest. I don't know.

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Q Well --

A hnd -- but see, you're taking about thirty years ago when we don't have the cardiopulmonary resuscitation that we have now. But in terms of 1985, no, I know of -- and that's not because it nay not exist, I just don't review that literature currently.

Q So you know of no such case in the literature?

A Yeah. But that doesn't mean it doesn't exist.

Q All right. All I'm trying to find out is whether you know. And I think you told me you don't; is that correct?

A That's correct.

Q Have you been personally involved in the care and treatment of any infant with pyloric stenosis who suffered a cardiac arrest, was immediately and properly resuscitated, who suffered severe brain damage such as Andy did?

A NO.

Q Okay. Have you ever been involved in the care of an infant who had pyloric stenosis who cane into the hospital severely dehydrated, suffered a cardiac arrest a few hours later ana brain damage?

A You're talking about a hypothetical case or --

Q Yeah,

A — a case that I have been involved in unrelated to this?

Q Case that you have been involved in.

A We're not talking about this case.

Q No.

A Because that's not the appropriate description of this case.

Q I understend that you don't describe this case that way.

A No.

Q Okay. What would be the appropriate treatment for a child four to six weeks of age with pyloric stenosis who was brought into the hospital in a severely dehydrated condition?

A A hypothetical case?

Q Yeah.

A Okay. well, I mean, one would have to assess the aegree of dehydration.

Q What if it was severe?

A What do you mean by severe, five, ten, fifteen, twenty percent? What are you doing, basing it on weight, are basing it on kilos, basing it on electrolyte disturbance?

Q Well, do you use the word severe in your medical

practice?

A Yes, but I qualify it. I don't just say severe.. I qualify it, severe due to,

Q All right. Well, how about if it's severe due to.. dehydration?

A No, that' not good enough. Due to dehydration bated on what, weight, kilos, electrolytes?

Q So you don't; understand — when I use the term severe dchydrrtion, you just don't understand the meaning of it?

A No, no. I understand the meaning, Mr. Cunningham. But it's not specific, okay? And I can't give you an answer unless you went *to* be specific. Now, if you want to give-me some specifications, we'll do it. Again, we're here to be accurate and givc you the *nost* information that I can.

Q So if a medical student out at the University cane up to you an3 said, you know, I've got an infant who's severely dehydrated, you wouldn't be able *to* tell him anything about how to treat the infant until you had all the specifics?

A Yes, I would. But I'd ask him, I'd say Mr. So and So, you've told me this child is severely dehydrated, what did you base that on: aid you base it on skin turgor, did you

base it on your clinical exam, did you base it on weight loss, did you base it on electrolyte disturbance. And then as a medical student, he said, yes, I based it on this. Then I would tell him what to do.

Q Okay, Well, you don't know -- if you assume that Andy suffered from severe dehydration exhibited only by his admitting lab reports, can you tell me what you would do then?

A Now we're talking about -- again, this is --

Q Hypothetically.

A -- hypothetically, and an assumption. Okay? Because he wasn't.

Q Right. I agree with you.

A His electrolytes were normal. Okay?

Q Okay.

A He did have some dehydration.

Q All right.

A Okay.

Q Was it severe, moderate or mild?

A I'd have to say it was mild to moderate.

Q Okay.

A Now, what is your question?

Q My question was, if he had severe dehydration

exhibited only by his lab reprts, what would you Bo?

A Well, you know, his lab reports didn't reflect the severe dehydration.

Q I'm asking you a hypothetical.

A No, I know that, But it still even hypothetically didn't reflect a severe dehydration. I would have done nothing differently than these doctors did.

Q What is the treatment for an infant who is severely dehydrated who has good skin turgor, and who's -- the only indication tnst they are severely dehydrated are the lab findings?

A Okay. What are the lab findings?

Q I don't know. You tell me some that would indicate severe dehydration.

A Well, a sodium of a hundred eighty.

Q Okay.

A Okay. Yes; well, in that case I would give an electrolyte solution which was low in sodium at a slow period of time depending on whether -- first of all, whether the child was in shock.

If the child was nor in shock, then I would not give anything or an acute basis. But you have to be careful with that particular type of dehydration, a hypernatremic

dehydration, you give one set of electrolyte solutions. Because there are serious complications that may result if you do otherwise.

Now, if it's a hyponatremic dehydration where the sodium is one fifteen, then you have to give hypertonic saline. And you give it based on the weight loss, based on the amount of dehydration at the"-- after deciding upon the rate.

Q Okay.

A So it's variable, and you don't use one piece of information. That's, I think, the point I'm trying to get across is that, you know -- I'm not boring you, am I?

Q Not a bit.

A Okay. The -- you know, so medicine is not practiced by a single test alone.

Q You nentioned shock. How about if on admission you're worried about the child -- oing into shock; what would you do?

A Well, I would look at the child, I would take his vital signs, as was donc in this case, and check the responsiveness, and -- as donc in this case. And then if I felt that the child was stable, I would proceed as I, you know, would ordinarily with any child.

Well, I take it it's your opinion, after reviewing all these records, that everybody involved in the medical care of Andy Hinkle did everything right, is that correct?

A You know, I don't want to make blanket statements. What are you referring to?

Q Well, tell me anything that was done by any of the medical personnel -- based on your review of the depositions, and the chart, tell me anything done by anybody that you consider to have been improper?

A Well, you know, I think there are many ways to do many things. I don't think the way this child was managed, given the clinical data and given the clinical situation, was improper. And to the contrary, if the doctors were not there and the anesthesiologist was not there, the baby wouldn't have survived.

Q But my question is, is it your opinion that anybody involved in his care and treatment at anytime reflected on this chart or in the depositions did anything improper?

A Not in my opinion, no.

Q Okay. And so what we had then was an infant with pyloric stenosis admitted to the hospital who goes on to suffer a cardiac arrest five hours later and ends up severely

brain damaged; is that right?

A Yes.

Q And it was totally unavoidable, totally unpredictable, and everything was done right, correct?

A Yes. The complication of the cardiac arrest, from what I can determine from the records and the assessments -- and that's all we have, okay?

We have -- you know, other people that see a situation may see it differently. But as recorded in the chart, and as recorded in the depositions and as recorded by the observations of the family, then I have to say everything wes done appropriately.

Now, why this child had a cardiac arrest is -- you know, again, is an unfortunate complication. It happens in children that are ill. If we knew that it vas not -- that we could anticipate it, the obviously these doctors, as well as anybody else, would have done something differently. But there's no way to anticipate it.

Q What is the mortality rate in children with pyloric stcnosis?

A Well, you have to, again, give me the specifics. I mean, is it a child with a potassium of one or is it a child with a potassium of five or is it -- you know, you just

can't make a blanket statement.

Q Don't numerous medical articles make such a blanket statement?

A They usually clarify what they are talking about, where they get their data.

MR. HOLMES: You're taking into account that such a child had a cardiac arrest under these conditions?

MR. CUNNINGHAM: I don't know what you are talking about.

MR. HOLMES: Do you mean with pyloric stenosis standing alone?

MR. CUNNINGHAM: I don't know what you are talking about.

Q Tell me what you understand to be the mortality rate, as reflected in the medical articles and textbooks, of pyloric stenosis in children?

A Which one are you talking about? I have to see the source of what the data --

Q So you don't know then?

A Right.

Q Okay. Have you had occasion to treat a lot of children with this condition?

A When I did general pediatrics, yes.

Q When was that?

A In 1970 through 1976.

Q All right okay. Since 1976, hat many children with pyloric stenosis have you trcatcd?

A None.

Q All right. And then between '73 and '76 what ver'e you doing?

A '70 to '76.

Q '70 to '76, what were you doing therc?

A I was doing an infectious disease fellowship ana doing a pediatric and -- internship and residency, as well as a neurology residency.

Q All right. Did you have occasion to treat children with pyloric stenosis?

A Yes.

Q All right. How many-of-the children that you were familiar with during that period of tine with pyloric stenosis came into the hospital and died five hours later from a cardiac arrest?

A I don't recall any. But there was certainly a significant morbidity, depending on -- we were in a referral center at Washington University in St. Louis. And we saw

many sick children.

It was a very active gastrointestinal service. So the children that were admitted with pyloric stenosis there were usually quite ill. So there was a significant norSidity.

Q What do you mean usually quite ill?

A Well, they usually had e severe electrolyte disturbance, they usually were either dehydrated or hypokalemic, they had a nmbcr of othcr problems.

Q And whcn they came in like that, what did y'all do for them?

A Well, depending on what was tne matter with them.

Q Well, how many of thcm who came in with a severe electrolyte disturbance with pyloric stenosis did you have die that you were caring for?

A I don't recall. I'd have to go back and look at then, look at the records ana

Q Do you recall any?

A I don't know. I just don't know.

Q Okay. Now, you made notes throughout the course of your care and treatnent of Andy, didn't you?

A Yes.

Q And is it true or not that the physicians involved

in his care were concerned about what had caused his cardiac arrest?

A Yes, I'm sure they were.

Q All right. Did you tell your opinion about what caused it?

A We discussed it. You know, I -- that's six years ago. I mean, we discuss it all the time.

Q Well, did you tell them you: opinion?

A I'm sure I did tell them, yes.

Q Did you ever enter anywhere in the chart your opinion about what caused his cardiac arrest?

A No. I wasn't asked to do that at that time.

Q Well, you never entered it anywhere in the chart, though, did you?

A No.

Q Did anybody enter anywhere in the chart the cause of his cardiac arrest as you have described for us earlier?

A Do you mean as I've put it in this fashion?

Q Yes.

A No -- I don't know. Probably not, because it's my opinion.

Q Uh-huh. Well, is there anybody else that agrees with you?

A Oh, I'm sure that there ace several people drat agree with me. I...

Q Who -- besides the lawyers, what doctors?

A Well, okay. I won't respond to that.

But the -- you know, Dr. HcAtee.

Q He agrees with you? --

A I think he agrees with me, yes.

Q Okay. Do you agree with him?

A Well, on certain things. You know, he's a pulnonologist and an adult practitioner and does not have a8 nuch experience as a pediatrician or a neurologist does with small children.

So I think he interprets certain data differently than I would. And the -- you know, I've not talked to each one or those doctors in detail about their opinions. So, you know, generally speaking, I think that we all feel that the child had a cardiac arrest.

Q Well, I'm talking about the cause of the cardiac arrest.

A It varies. I mean, I think that, you know, we're dealing in probabilities here. And, you know, what I think is probable may be somewhat different than the others.

Q Well, how many of then, to your knowledge, agree

with you as to the probable cause of the cardiac arrest?.

A I don't know. I haven't polled then.

Q Okay, Have you discussed it with any of then?

A Just Dr, McAtee on a brief occasion,

Q All right. And Dr. McAtee agrees with you; is that right?

A He agrees that the child had a cardiac arrest probably on a metabolic disturbance, yes.

Q Okay. Now, you say you've read his deposition. Is there anything in there that you disagree with?

A Well, what are you referring to? Now, I mean, that's E five -- you know, a five hour ueposition. I can't tell you.

Q He expressed certain opinions in there, didn't he?

A Yeah. Why don't you ask ne which one you want?

Q I'm not going to ask you which one. He expressed certain opinions in there, didn't he?

A (Witness nods head affirmatively).

Q Were there any of his opinions, his major points about what he thought caused the cardiac arrest, that you disagree with?

MR. DUFFY: Point out the page and number for hi=.

MR. CUNNINGHAM: I don't have to pint out a page and number.

MR. WFEY: Well, he doesn't have to answer then,

MR. CUNNINGHAM: We'll find out whether he does or not.

MR. DUFFY: It's a hundred ninety page deposition.

MR. CUNNINGHAM: I'm not asking about details. I'm asking about his overall opinion.

MR. DUFFY: ne can t be required to memorize a hundrcd ninety pages.

MR. CUNNINGHAM: I m *not* asking him to memorize it.

MR. DUFFY : Invite his attention *to* something.

MR. CUNNINGHAM:

Q What do you understand Dr. McAtee's opinion *to* have been as *to* the cause of the cardiac arrest?

A As I read his deposition, he feels that the child had a metabolic disturbance, electrolyte disturbance, which was not necessarily reflected in the admitting electrolytes, which resulted in possibly a cardiac -- probably a cardiac arrhythmia at a latcr time.

Q Do you agree or disagree?
A I agree.
Q Now, the metabolic — did you say metabolic disturbance?
A Uh-huh.
Q All right, Is the metabolic disturbance that he described the same metabolic disturbance that you have described for us today?
A Yes, I think so.
Q Okay. Incidentally, what was your reason for reading his deposition?
A Well, I think as you well know, Mr. Cunningham, to be prepared to give a deposition you need to have all of the records and all of the opinions so that one can give a justified, unbiased opinion.
Q Well, you didn't need to know what he was going to sty to give your opinion, did you?
A I think I need everybody's information. If you have some, I'd like to see it, too.
Q Why did you need to know what he was going to say?
A I didn't need to. But it was available and, you know, I should read it beforehand.
Q Okay.

A If I disagreed with him, I would justifiably tell you and be more than agreeable to --

Q But you don't disagree with him?

A I said I don't agree with everything ne said in there, okay, in terns of varying dcgrecs. I told you he was an adult pulnonologist who, you know, describes things somewhat differently than I would.

But in terms of what I do agree with him, is thnt I do agree it was a metabolic disturbance which resulted in a caraiac arrbythmia which resulted in a cardiac arrest which resulted in decreased oxygen which resulted in decreased blood flow which resulted .in tile hypoxic ischemic encopalopathy that the child had.

Q Is there anything that Dr. McAtee said that you considered to be totally wrong?

MR. HOLIES: What page ere you- referring to?

MR. CUNNINGHAM: I'm not referring to amy page.

MR. HOLMES: Why don't we just save time and you give him --

MR. CUNNINGHAM: I'm not referring to any page.

A Okay. I can't answer that.

Q You don't know whether he said anything that you felt was totally wrong?

MR. DUFFY: Not unless you invite his attention and point out --

A Not unless you want to show it to me.

MR. CUNNINGHAM:

Q Well, did you read his deposition and try to remember what he said?

A I've read fourteen depositions.

Q Yeah. But you just read his, didn't you, this week?

A I've read all of them this week.

Q Did you read his?

A Yes.

Q Did you try to remember what he said?

A I've tried. But I can't remember specifically.

Q Have you considered what he said in expressing the opinions you've given here today?

A Yes, I have.

Q Okay. But you don't remember enough about it to answer any questions about it; is that right?

A I'm answering the questions about it. You asked me generally did I agree with him. I said yes. But

specificaliy, you know, there are things that I recall that I don't agree with. But I can't --

What are those thingn that you recall that you don't agree with?

A If I can go through the deposition, I'll be happy to turn the pages with you.

(All right. Great.

(Off the record discussion)

(Short Break)

MR. CUNNINGHAM:

Q Is that thzt deposition that I put over there?

A Here it is.

Q You've got it? Okay.

Now, do you agree with Dr. McAtee when he says on page thirty-one, line sixteen, in answer to the question, "What diagnosis did you reach from reviewing these numbers that *yocl* have told me about?' Answer, "Well, I think those numbers themselves woad add to the basic diagnosis of pyloric stenosis and the additional problem of severe volume contraction ok dehydration in addition to the pyloric stenosis diagnosis.

Now, is =hat what Dr. McAtee aid, according to this transcript?

A Yes. I think he was talking about volume contraction more than dehydration, you know, as I interpret it. But if he does mean severe dehydration, I would disagree; that I don't think it's severe by the clinical exam.

But in many situations you cannot tell, because you don't know what the total body depiction is of electrolytes end volune.

Q All right. So when he says it was severe volume contraction or dehydration in addition to the pyloric stenosis diagnosis, you disagree with that?

MR. DUFFY: I'm going to object to the fora of the question, because what you arc doing is sonething which the Supreme Court has condemned; and &'at is, taking things out of content. If you will refer to page twenty-eight et line twelve, Dr. McAtee refers to the condition as significantly dehydrated. He makes no suggestion of severe dehydration. So I think we're taking about --

MR. CUNNINGHAM:

Q Who used the word severe in that answer?

MR. DUFFY: You did.

MR. CUNNINGHAM: No, I didn't. I didn't

answer on page thirty-one;

MR. DUFFY: And he didn't say severe dehydration, either. He said severe volume contrnction.

MR. CUNNINGHAM:

Q All right. Let's talk about thet, then. What is the difference between severe volume contraction and severe dehydration?

A Well, it means that the intravascular volume is

(

severe volume contraction?

A Well, if one can determine it - which may be difficult in a small baby, because all you have is the electrolytes and the clinical manifestations - then you would replace with fluid volume.

Q Is severe volume contraction a life-threatening

A

Q

volume contraction?

A

Q Well, do you have an opinion whether he did or did

not have severe volume contraction?

A Based on the data that I reviewed, I don't think it reflected in the data - in which that's all the doctors had to go on - that it reflected it was severe volume contraction.

Q All right. Well, then --

It hcs nothing to do with the cardiac arrest anyway.

Q Did you disagree with Dr. McAtee when he refers to the problem of severe volume contraction?

A If that's his opinion, then you'll have to ask him. That's not the way I interpret the record, so I'm not going *to* disagree with him or agrce with him. I mean, I interpret it differently. He can interpret it the way he wants.

Q So *you* don't know whether you agree or disagree with him on that?

MR. HOLMES: He said he interpreted it differently.

A I can --

MR. CUNNINGHAM:

Q Does that man you disagree or agree?

A It means that I interpret it differently. If you

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want to see what he says, then ask him.

Q Well, is severe dehydration a life-threatening condition?

A It depends on the mount. It depends on the conation of the baby. It depends on the type of dehydration. Hypernatremic dehydration, which I would classify as severe, may not be life threatening at that tine. And you usually take twelve to twenty-four hours to correct it.

Q Okay. Well, isn't severe dehydration e life-threatening condition?

A If you clarify vhat you are talking abut, it may be.

Q How come Dr. McAtee can answer that with a "Well, yes, it is" and you have to have it clarified?

A Because I deal in specifics, Mr. Cunningham.

Q Okay. And he doesn't?

A Well, I don't think he does.

Q Okay. Isn't severe dehydrat on a life-threatening condition?

MR. DUFFY: What page are you on?

MR. CUNNINGHAM: I'm on page thirty-two.

Q Isn't severe dehydration a life-threatening

situation in an infant this age?

A Again, you have to clarify what you are talking about in terms of what are the other circumstances.

Q Okay. So when Dr. McAtee answers that question with a "correct", you say that there's no way to answer it unless it clarified?

A Yeah. I don't think -- you know, he didn't ask you to clarify it. And you're talking hypot[illegible] and you're not talking in relation to this case.

And, you know, so we don't know -- I don't know what you are talking about. If Dr. McAtee does, then that's fine. I mean, from this deposition, I can't determine what you are saying is hypothetical and what's reflected in the case.

Q All right.

A And that's the problem, you know, with reading depositions and not having people present.

Q Uh-huh. Doesn't severe --

MR. HOLMES: Are you agreeing, Bobbo?

MS. CUNNINGHAM: Do what?

MR. HOLMES: Are you agreeing?

MR. CUNNINGHAM: Huh? Oh, yeah. Yeah. Sure.

Q mesa't severe dehydration require prompt

diagnosis and treatment?

A Again, it depends on the type. And yes. I Dean, if it is severe, and if you have the appropriate laboratory studies, then it requires a certain course which a physician is directed to take.

In this particular situation, the vital signs were stable, the electrolytes were normal. They proceeded with replacing fluid in an appropriate period of tine. I don't see any other course, and I don't think Dr. McAtee agrees that there's any other course.

Q Did you know the child was severely dehydrated back when you were treating him?

A I didn't see the child until 8-23.

Q All right. Well, diu you know the child was severely dehydrated prior to August 22nd at the tine of his arrest?

A That wasn't reflected in the chart. The admission history an2 physical by Dr. Roberts said that *the* -- there was not any severe dehydration. so that's what I assumed was the case.

And after I review the records, I have to assume that based on the laboratory data and based on the clinical exam, that it appeared that the child was not severely

dehydrated; but may well have been volume contracted as Dr. McAtee it suggesting, you know.

So I think that the appropriate course in terms of putting the IV in and replacing the fluid as they did was the way it should be done.

Q So when Dr. McAtee says yes, he was aware when he reviewed the records that the child was severely dehydrated, you were not aware of that when you reviewed the records?

A Now, you asked me back then. Okay?

Q Well, how about since then when you have reviewed the records?

A Again, no, I have interpreted it differently. I do not feel that the child is severely dehydrated. But again, you have to ask Dr. McAtee. His interpretation of certain findings may be different than mine.

But it -- the bottom line is that it makes no difference in this particular situation.

Q In your opinion?

A Well, I think in Dr. McAtee's opinion.

Q Okay. So you think he expressed the opinion that it made no difference in this case?

A He expressed the opinion that the care rendered was appropriate for the situation,

Q Okay.

A He is expressing the opinion that I an, too, that pyloric stenosis has certain problems associated with it in children having metabolic disturbance and electrolyte disturbance that if it is detectable, then it requires an appropriate action.

If the electrolytes appear *to* be within a normal range and the other situation appears to be normal, you go along one course.

Q Well, if Dr. McAtee could detect *it*, wouldn't you expect a pediatric surgeon to be able to detect it?

A I think that the pediatric surgeon assessed the laboratory data quite appropriately. Now, even though Dr. McAtee felt like there might be severe dehydration, I see nowhere-in his deposition that I can kind that he would have aone anything any differently.

Q Well, do you think anything should have been done differently if the child was severely dehydrated?

A Well, you won't give me, for sone reason, what you want to know, Mr. Cunningham. And —

Q But you just used the term yourself, Doctor. I'm using it in the same context you did.

A Again, I'm trying to -- again, you have to tell ne

what you -- you know, when I use severe dehydration, I usually clarify it, hypernatremic, hyponatremic, hypokalemic. And if that's the case -- it's like saying somebody's sick, okay? How do you treat somebody's who's sick?

Q Well, did Doctor —

A How do you treat somebody who's sick? You have to find out what's natter with them.

Q Well, did Dr. McAtee say that the child was hypokalemic?

A No.

Q Hyperkalemic?

A No.

Q Hypernatremic?

A No.

Q Hyponatremic?

A No.

Q Well, how did he describe the severe dehydration then?

A He just said it was *teverc* dehydration. He didn't tell you why.

Q How closely should this child have been monitored by the nurses between the time of admission and the time the cutdown was done?

A You know, I mean, I don't know what you mean. Do you clean --

Q You don't know what I mean?

A No.

Q Okay. So if a medical student asked you how closely a child should be monitored between such and such a time and such and such a tinc, you wouldn't know what he was asking you?

A No. I didn't say that. That's what you said. If he tells me what's the matter with the child, giving me the laboratory data and then condition or the child, then I would tell him.

Q Well, I'm talking about Andy Hinkle.

A No, you didn't say that.

Q Okay. Well, I'm saying it now.

A All right. Well that's what I'm asking you.

Q How closely should this child have been monitored between the tine of admission and the tine or the cutdown?

A Just as he was.

Q Just as he was?

A Yes.

Q No closer?

A You know, he was in virtually constant observation

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by someone all the tine.

Q Mho was the soueone?

A Family, nurses, physicians.

Q Okay. Did the doctor -- did the child receive sips of clear liquid between the time of admission and the tine of the cutdown?

A I don't know.

Q Should hc have?

A You know, I mean, no. I think that the order was written. I mean, if he did, that was fine. If he didn't, that was also fine. He was going to get an IV done. And that was within a reasonable period of time.

Q The order was written, and if he did it was fine and if hc didn't it was fine?

A Well, and -- you know, after they put the IV in, and if he wanted clear liquids and sips of clear liquids, that's finc.

Q How about before thcy put the IV in?

A It's only a nattcr of four hours -- three hours before he has the IV in. So I don't see any reason to, you know, if that -- if the child wanted it, that was fine.

Q Okay. Now, what would be the impending signs and symptoms of a child who suffers a cardiac arrest due to a

metabolic abnormality of electrolytes?

A You're saying a hypothetical case?

Q Yeah. I mean --

A All right. At what age?

Q At the age that Andy Hinkle was. What do the texts and the nedical literature ana what does your experience tell you about whet the signs and symptoms would be?

A usually thcrc are none.

Q None?

A Right.

Q So the first you would expect to know about a problen in a child who had a metabolic abnormality of electrolytes would be when they had E cardiac arrest?

A That may be the case. Certainly sometimes, you know, children -- you know, as a manifestation of an impending cardiac decompression, will manifest them. But they ao not have to manifest then.

It can be just a sudden event. It's just like anybody that you monitor in the hospital, and why that -- people thnt htvc heart attacks you put in an intensive care unit. You monitor then with an E%, and then you'll Bee if they have any deviations iron that.

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Q Well, is that the way it happens most of the tine, that there arc no impending signs and symptoms in an infant like this?

A With a metabolic disturbance, yes. If everything appears to bc nornal at the time or' admission in terns of electrolytes ana in terns of clinical exam, then how do you anticipate it? I nean, I don't know how to anticipate it.

Q Well, I'm not asking about anticipation cow. I'm talking about impending signs and symptoms. Does he just --

A Well, but that's part of --

Q -- roll along and everything fine and then all of a sudden his heart stops?

A Certainly that happens.

Q Okay. Is thct the way it happens nost of the tine?

Q Yeah.

Q

A

Q That's the way it happens most of the tine?

h Yes.

Q All right. Is that documented in the medical literature?

A It's documented in the literature that I review.

Q Okay. What specific literature?

A Twenty years of reviewing literature.

Q Well, you don't have any specific textbook that discusses that?

A I don't use a specific textbook, Mr. Cunningham.

Q You don't have any textbooks in your office?

A I have about two hundred.

Q Okay. Well, do any of those discuss it?

A Yes, I'm sure they do.

Q So you would be able to provide textbooks to support your theory in this case, wouldn't you?

A No. That's what you said. I did not say that.

Q Okay.

A I said that my clinical experience, in review of articles, books, texts over the years, have given me the reassurance that this occurs.

Q Okay. Well, is there textural material that describes this phenomenon that you have described occurred in Andy?

A I'm sure there is.

Q Okay. And it would be in sone of those textbooks you have, wouldn't it?

A I would guess it would be.

Q Okay. And *you* wouldn't mina providing me with copies of that, would you?

A Yes. Because I don't know where -- you know, I can't go specifically -- *you* know, I'd have *to* go through twenty years *of* review. And I don't think I'd have the *tine* to do that.

(So you don't think there's any text you could put your hand on and pull out a --

A It's common knowledge, Mr. Cunningham, in practicing medicine and taking care of acutely ill chilaren. I don't think it needs documentation.

Q Common knowledge?

A Yes.

Q Okay. ~ u you keep talking, about twenty years. Is that how long you've been practicing medicine?

A Yes.

Q Okay. In that twenty yezrs, you've never had it happen, though?

A Oh, yes, I have.

Q You hzve?

A Absolutely.

Q A child with pyloric stenosis?

A No. No. You didn't say that, You said hcve a metabolic abnormality or a cardiac arrest. At least that's what I thought you implied.

Well, how many have you had that had a metabolic abnormality just like this in a six week old infant with pyloric stenosis who died?

A Okay. I told you I haven't had any or' those. But you nade your general question as to children that had metabolic abnormalities having a sudden cardiac arrest. That certainly occurred. It's occurred to ne, It's an unfortunate, tragic situation which nobody can prevent.

Q All right. And those metabolic abnormalities can be caused by multiple things, can't they?

A Absolutely.

Q Okay. Have you ever had one caused by precisely whst we see nore with precisely the sane clinical coursc mu- the same lab findings?

A No.

Q Now, what was the position of this infant immediately prior to the tine of the cardiac arrest?

A As best I can determine, the baby was on its back

slightly elevated.

Q On its back? What was slightly elevated?

A Seems to me that the nurses said upon bringing the child back to the room that they had a towel wrapped under the back.

Q Okay. All right. And was that positioning appropriate?

A Appropriate for what?

Q Appropriate for that child.

A Yeah. I mean, I don't see any reason that the child shouldn't be in that position with a saphenous vein cutdown.

Q What why do you say with a saphenous vein cutdown?

A Well, because the catheter is in the leg. And, you know, it's more appropriate to hrve the child on *the* back with being propped up.

Q Okay. Why would you worry about the child being on its stomach with a catheter pushing against the bed [illegible] that what you are talking about?

A Well, *it* can be. You know, you'd like *to* keep the catheter in as much view as you can.

Q Okay. Now, is a child more likely to aspirate on its back or on its stomach?

A Do you mean just any child?
Q Yeah. Just any child,
A At what age?
Q At this age with pyloric stenosis.
A I don't know. I mean, you know, aspirate, do you mean just when the child vomits and then aspirates?
Q Well, if you don't know what aspirates means, that's fine. Just tell me.
A No. That's not what I asked. I'm not trying to be difficult, believe me.
Q Well, I won't comment on that. I'm csking you whether or not a child *is* more likely to aspirate on its stomach or its back?
A I think the child can aspirate in any position at thet age.
Q All right. The question is not whether -- not can they aspirate, but in which position are they more likely to aspirate?
A You know, if the child is propped up and vomits whether it's on the back or on the stomach it's liable to aspirate.
Q Okay. Can aspiration cause a respiratory arrest?
A Unless it's just overwhelming aspiration, no, not

if it's just a little bit.

Q Can aspiration cause laryngospasm?

A I've not had the opportunity to see that.

Q Well, even though you may not have seen it, do you, based on your twenty years of experience, know whether or not aspiration can cause laryngospasm?

A I suppose anything is possible. The probabilities are no.

Q Okay. That it cannot?

A Right.

Q Did this child aspirate?

A Yes.

Q Did it aspirate during the ten to fifteen minute period prior to its cardiac arrest?

A Not based on the data. It appears that the child aspirated either that morning or sometime beforehand, because the infiltrates that were recorded were present very shortly after. And it takes a long period of time for the infiltrates to develop. so I'd have to say the child didn't aspirztc.

Q Ail right. How do you know the child didn't aspirate during thct five to ten or fifteen minute period prior to the arrest based on thore reports? How do you know

that?

A Because there were really no new findings on the chest x-ray.

Q Well, would there have to be chest x-ray findings if the child aspirated?

A . You have to have sonething to base your findings on, and that's all we have.

All right.

A You've got no barium in the lungs. You have infiltrates that were present acutely. And those take time to develop; so I'd have to say no, there's no evidence to support chat.

Q Okay. Did the 'child vomit immediately prior to its arrest?

A According to the notes, no. According to the observations of the parents, no.

Q Okay.

A And see, I think that's the whole key in this entire case, Mr. Cunningham. The father, the mother and the mother-in-law, or whoever else was in the room, noticed this child arch his back first before anything else occurred and become cyanotic.

That indicates to me that the child had a primary

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cardiac problem, did not have a respiratory arrest. It was only noted after the nurses came in that there was some material in the mouth. And I'm not sure what that was. It could have been mucus, could have been anything.

Q What color was it?

A They described it as being white.

Q All right. Did the child choke immediately after its cardiac arrest?

A I would have to say no. There were no sounds.

Q All right. What did the nurses do immediately upon arrival in the room?

A Which ones?

Q How many of them came immediately?

A TWO.

Q All right. What did those two nurses do?

A They attended the child, tried to clear the mouth out and establish whether there was an appropriate airway, which is what they should have done, and then instituted resuscitation.

Q Was an airway established?

A Within three minutes by the anesthesiologist.

Q All right. That is the appropriate drug therapy for a child who suffers a cardiac arrest like Andy did?

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\?ell, the -- I mean; one bas to first of all see whether there's any cardiac rhythm and then, you know, decide on what the type of rhythm is. If its atrial -- I mean if it's ventricular fibrillation, one would probtbly shock the child first and then replace with bicarbonate, with Epinephrine, with other cardiac support nedicincs.

Q Okay. Would that -- would you want to do that immediately in a situation like this?

A No. You first establish -- try to find out what the problem is, establich the airway, get that stabilized and and give the appropriate medications.

Q Okey. Well, that's what I am trying to find out. You establish the airway and be sure you've got a patent airway?

A Right. That was aone in three ninutes. I don't know of anytime that it could have been done any quicker,

Q All right. And during that *tine*, I guess the hcnrt was king massaged?

A Well --

Q CPR was being done; is that right?

A I don't know that.

Q Well, shouldn't it have been done?

A Well, no. I mean, it depends on whether they felt

that there was a pulse. obviously they felt there was a pulse at that time.

Q Well, was there a pulse at that time?

A Well, you know, I assume there was.

Q Is thet consistent with a cardiac arrest?

A Well, it can — certainly after the baby comes back end after the baby is stimulated, certainly you can have the pulse cone back.

Q Well, ciid this baby come back immediately insofar as its heart activity?

A Accordins to the EKG tracings the child had a sign wave then came back with cardiac complexes with elevated I-waves.

Q All right. Well, how long was the child actually in cardiac arrest?

A I don't know that. I don't; think anybody knows that.

Q Ail right. What drugs would you want to administer immediately?

MR. HOLMES: He didn't say he'd administer any drugs immediately.

MR. CUNNINGHAM:

Q All right. Would you not administer any drugs

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immediately?

A As I told you, my -- the way most people approach a cardiopulmonary arrest is to, one, determine as best they can quickly what's occurred, establish the airway, establish an IV, give bicarbonate, because there's almost invariably acidosis.

Q This child has an IV in already?

A Right. That's what I'm saying. But that's -- you asked me the sequence, And the hypothetical sequence is --

Q And the sequence is establish an airway?

A Right.

Q And if you've got an IV in, what do you do next after you've established an airway?

A Then you give what medications you think are appropriate based on the cardiac rhythm or based on the clinical assessment.

Q Okay. Do you want to do that as quick as you can?

A Well, I mean, as quick as it's certainly feasibly possible in a hospital.

Q Okay. Now, I take it from your testimony that you have never been of the opinion that Andy aspirated or --

A No.

Q Excuse me. Let me rephrase that.

You have never heen of the opinion that aspiration caused the cardiac arrest?

A That's correct.

Q Okay. Did you have occasion dcring the follow-up care of Andy to hzve numerous conversations with Mr. Binkle?

A Yes.

Q Did you know Mr. and firs. Binkle to be extremely concerned about what had caused Andy's cardiac arrest and subsequent brain damage?

A Yes.

Q Did you ever tcll him that in your opinion it was a metabolic abnormality of electrolytes?

Q Well, certainly if you had the opinion at that: tine that that was the cause you would have told the parents, wouldn't you?

A I may -- usually, you know, you let the primary care physicians take care of their patients. And unless I was asked directly, I night not nave expressed that in that tern.

Q Well, did you ever express that opinion to the primary care physician?

A I expressed the opinion chat the child had a cardiac arrest. And I based it, you know, on what I thought occurred. Now, whether I used netabolic abnormality or electrolyte disturbance or what hava you, I don't know. I mean, I can't tell you. I mean, that's six years ago.

Q You don't know whether you told told the treating physicians?

A I do know thzt we had discussions about vhat the cause was. And my opinion has not changed.

Q Okay. Now, you said you hadn't talked to any other attorneys other than Mr. Duffy and Mr. Leach and Mr. Holaes. Do you recall --

A No -- well, excuse me.

Q -- having a meeting at your office with Mr. Gordon Tabor and Mr. Albert Copeland?

A Yes, I do recall.

Q And with another attorney?

A Yes.

Q And Go you recall having a discussion et that meeting about the specific subject of what had caused Andy's cardiac arrest?

A No, I don't recall the substance of that comersation.

Q You don't recall anything about the substance of it?

A We talked -- I think they asked me about his condition at *that* time.

Q Sir?

A I think he asked me about his condition at that time and, you know, what his prognosis was and so forth. You know, this was done over at the University of South Alabama. I do remember that now. And I didn't -- you know, I wasn't trying to not tell you that. I just didn't recall.

Q All right. And you don't have any recollection of any discussion at that meeting about what had caused Andy's cardiac arrest?

A You know, I don't recall what I said, no.

Q Okay. All right. Did you state at that meeting that in your opinion one of the probable causes was aspiration of barium?

A No, I don't think I would have said that.

Q All right. Did you state at *that* meeting that there were gaps in the patient's chart surrounding the barium swallow and upper GI series as well as the venous cutdown procedure?

A Again, I told you I can't remember the substance

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of the conversation.

Q Okay. Did you tell him that you did not know if the child's stomach had been emptied following the radiology procedure, which is standard procedure?

A No, I wouldn't have used that term.

Q All rignt. Did you tell then that, in your opinion, the most probable cause of the cardiac crrest was aspiration of barium?

A No.

Q Did you tell them that you could not rule out aspiration by reading the x-ray reports?

A Are you reading from a summary or' the aiscussion? Because I've never seen that.

Q I'm asking you a question.

A Is that what you are reading fron?

Q I'm asking you a question.

A No. I told you I don't remember what I discussed with them.

Q Did you tell them that you could not rule out aspiration by reading the x-ray reports because the first two films were overexposed and the rcports indicate they were difficult to read?

A No, I wouldn't have said thst.

Q All right, sir. It there anything else you remember about that conversation?

A It vas a long tine ago. No.

Q All right, sir. Is there any reason you would hzvc bad at that nceting not to tell exactly what you thought about the case?

A No. I mean, I have no reason to tcll anything any differently at anytime.

Q Ail right. And back in 1979, your recollection of the facts and details about this case was a lot better than it is now, isn't it?

A Sone of them. But I can't hcld accountable for things that I don't review and approve, you know, of my coriversations.

Q Now, the electrolyte imbalance that existed in Andy, would thcre, in your opinion, havc been any changes in his laboratory reports if further tests had been done between the time of admission and the tine he arrested?

A I suppose that is -- yeah, that's possible.

Q What would you expect to have been change?

A I wouldn't havc expected anything to change. I'm saying -- you asked ne if it was possible that there would have been sone changes.

Q All right. Well, I'm asking you now, would you have expected to see any changes?

A No, not if there wasn't any further esccssive voniting, if there wasn't any excessive fluid loss, weight loss, anything that changed, which obviously didn't.

Q Okay. All right.

A So I wouldn't expect any changes.

Q So you would *expect* his lab picture, then, *to* be the same at *the* tine of the arrest immediately before as it was on admission?

A I would have anticipated that that would have been the case. But that's not the way medicine occurs. Things change.

Q *Are* you telling me you would expect to see changes or you wouldn't?

A No, I said that I would not anticipate it. I'm saying that doesn't always happen, though.

Q All right. Hell, let me rephrase the question then.

I want you to assume that all of the lab *tests* that were performed on admission --

A Again, this case, we're talking about?

Q Right.

— were performed ten ninutcs bcforc Andy had a cardiac arrest. What findings would you expect to have seen on those lab reports?

A Well, I would --

MR. HOLMES: Just a ninute, I object to the question, because I don't think it's been established that the lab tests were performed on admission or at the tine or admission.

MR. CUNNINGHAM: Well, let's call t en the admitting lab tests, whenever they were performed.

MR. HOLMES: In fact, I think they carry the tine of 2:00 o'clock, 2:00 something.

MR. CUNNINGHAM:

Q Do you know which ones I'm talking about, the ones thar you referred to?

A Talking ebout the admitting laboratory data.

Q Right.

A Whether it was done at 11:25 or 2:00 p.m.

Q Is irrelevant to my question. My question is, assume that it had been done five or ten minutes before he arrested. What, if anything, would you hcvc expected to see change between the previous ones and __

A Do you mean looking at that prospectively before

the want or now?
Q .Now.
A Okay. Yeah. I mean, I -- now, knowing that the child had a cardiac arrest, knowing vhat hio potassium vas . afterward and knowing that he received that mount of bicarbonate, then yes I woulci have said that maybe the potassium was higher than it was on admission. But there's no way to anticipate *thzt.* There would be no way to do that.
Q I'm not asking abour anticipation, okay?
A Well, it's part of the way you treat patients, Mr. Cunningham.
Q But that's not what I am asking you,
A Yes, you are. You're asking me to interpret --
Q No, I'm not.
A -- a *set* of data and give you an opinion. I have to do it the way I treat patients.
Q Well, how about answering my qucsffon, okay? And the question is, if that had been done five or ten minutes before the arrest, tell me what differences you would expect to have ccen between the test done then and the test done on admission.
A Given the sequence or events in retrospect anci not prospectively --

Q In retrospect.

A Okay. And looking at it now, from knowing the child had a cardiac arrest --

Q Right.

A -- then yes, I anticipate -- I mean, I would have expected, as it was in the laboratory findings, that the potassium was elevated after a certain mount of bicarbonate. Again, not knowing that -- and not expecting that that should occur.

Q All right. If tests had been done ten or fifteen minutes before and if, hypothetically, you had found this increased potassium, what, if anything, would you have done?

A Depends on what the level of the potassium was.

Q All right. Well, what do you expect the level would have been if you had done the test?

A I don't know.

Q Don't have any idea?

A No.

Q What would you consider to be elevated to the extent that it would cause you grcnt concern?

A Anything in excess of fivc point five, fivc point seven.

Q All right. Well, let's assume it was five point

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seven ten ninutes before the arrest. What, if anything, would you have done?

A Now, we're assuming hypothetically all of this occurred?

Q Absolutely.

A Okay.

Q Absolutely.

A Well I might have said, look, the child has normal, then I night have said, let's repeat it. Because in small infants, you can sometimes have hemolyzed blood samples and the potassium is falsely elevated.

So instead of treating the laboratory test, I would then repeat it since I was assured the child was in no particular distress. If, in fact, the EKG revealed that the child was suffering from hyperkalemia, and repeat laboratory would treat that in an appropriate manner; one by giving bicarbonate, insulin, glucose, etcetera.

Q All right. You used tile term hyperkalemia; is that right?

A Yes.

Q What numbers in this child would indicate he was hyperkalemic?

A . . . At what time?

Q At anytime.

A Well; the post potassium -- the post arrest potassium was five point three.

Q Okay. Is that hyperkalemic?

A That's above the nornal limits.

Q Okay. Now when, in your opinion, did he become hyperkalemic?

A I don't know of any *way* to tcli you that.

Q Well, was --

A I mean, in retrospect --

Q -- it bcfore he arrested?

A Well, it nay well have been. That is a probability.

Q Okay.

A But that is *not* necessarily what occurred.

Q Okay. Well when, in your opinion, did he probably become hyperkalemic? .....

A Probably shortly before the arrest.' Now, what that level is for every individual is different. I mean, you could have a potassium of six point: eight an6 not have any

symptoms. Sone individuals of five point five can have a cardiac arrhythmia. We don't know What that is. You have to assess the total clinical situation.

Q Was he hyperkalemic on admission?

A No.

Q Was he hyperkalemic an hour after admission?

A Well, I'd have *to* look when this second set of electrolytes were drawn."

Q Was he hyperkalemic 'at 3:00 p.m.?

A On *the* day?

Q Yes.

A No. There were no laboratory tests done.

Q Well, in your opinion, was he hyperkalemic at 3:00 p.m.?

A I don't knot7 how to answer that.

Q Well, he arrested at what tine?

A At 4 :20.

Q All right. And you have no opinion whether or not *he* would have been hyperkalemic at 3:00 p.m.?

A Well, if he was, he wasn't manifesting any symptoms, which would --

Q Get isn't the question.

A Yes, it is.

Q No, it isn't. It's not the qucstion I'm asking you. I'm not asking whether he manifested symptoms or whether anybody knew it,

A But I have to answer the questions the way I want, not the way you want,

Q Well, you tell me whether or not, in your opinion, he was hyperkalemic at 3:00 p.m.

A I said no.

Q No. All right, Was he. hyperkalemic at 3:30 p.m.

A Excuse me. Let me correct that. I said I aon't know.

Q You don't know. Was he hyperkalemic at 3:30 p.m.

A I don't know.

Q Was he hyperkalemic at 4:00 o'clock?

A I don't how.

Q Was he hyperkalemic at 4:15?

A Again, I don't know.

Q Was he hyperkalemic at the time he arrested?

A I don't know. He was hyperkalemic after be arrested.

Q Well, in your opinion, did his hyperkalemia cause or contribute to the arrest?

A As I have said before, that is a probability. An

in my opinion, thet is the most likely probability. But when it occurred, I cannot tell you. I don't have the laboratory data.

Q Well, certainly you would agrce that it would occur before the arrest if it caused the arrest, wouldn't you?

A I said I -- yes, I --

Q You agree with that?

A I did say that.

Q Okzy. All right. And your statement is that you don't know when before the arrest?

A No.

Q In that right?"

A That's correct.

Q And you don't know the degree to which he became hyperkalemic before the arrest; is that: correct?

A I don't know bow to tell that.

Q Is there treatment available for infants who arc hyperkalemic?

their problem is, whether they are symptomatic. Sone children are chronically hyperkalemic.

Q All right. Is there treatment available for

children who hzvc pyloric stenosis with hyperkalemia who are about four to six weeks of age? Is there any way to treat it?

A If it is symptomatic, yes.

Q All right. How do you treat it?

A I've already said that.

Q Well, tell me again. I forgot. How do you treat it?

A You can either give a substance called Kayemalate, which takes a little while to work. You can give other substances such as bicarbonate, glucose, insulin.

Q All right, What's the fastest way to take care of hyperkalemia?

A Certainly by intravenous medications of vhichever you choose.

Q Okay. If you havc a child under these same circumstances I just described who is hyperkalemic and you administer the proper medication, how long would you expect it to take to correct the condition?

A IC depends on the degree and depends on the other situation, and -- I mean on other factors. It nay take, you know, twenty minutes, it may cake thirty minutes, it nay take two hours.

Q Okay. And is it a matter of putting the medication into the IV and then into the child; is that all it involves?

A Yes.

Q Okay. Have you ever treated children who were hyperkalemic?

A Yes, I have.

Q Okay. And how do you determine whether or not the condition is being corrected? Do you do further blood studies?

A And you follow the patient clinically.

Q Okay. Now, have any of the patients that you have treated for hyperkalemia exhibited any signs and symptoms?

A Some have, some have not.

Q All right.

A As I said, you know, there have been a large number of children that are hyperkalemic without any symptoms.

Q Are there any signs and symptoms for hyperkalemia described in the medical literature?

A Certainly, there are many.

Q Are there any classic signs and symptoms?

A Usually they will have an abnormal EKG.

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Q All right.

A They nay be in congestive hsart failure. They may be in renal failure. They may have an infection. They may have muscle disease. They may have a whcle host of symptoms.

Q Did this child have any of those?

A BO.

Q All right. Now, what was his potassium immediately after the arrest?

A I believe it was five point three.

Q Okay. And does that mean that ut the tine that test was do-ne that he was hyperkalemic?

A That means hc was slightly hyperkalemic. But this is after receiving a large amount of intravenous medications. So I don't know what it was bcfore. And it may *not* have even been that high.

But, you know, in a child that has been voniting that has pyloric stenosis it nay be that, you know, five point five or five point four nay be enough to trigger a cardiac arrest.

Q All right. Well, do you have any literature whicn supports the propsition that five point two or fivc point three is enough to trigger a cardiac arrest?

A I think in the given -- not a single isolated

event. Again, you want to isolate single characteristic findings. You don't practice medicine that way. You have to practice it with a constellation.

Q I didn't ask you about practicing medicine. I asked you whether *or* not there are any textbooks that *say* that.

A You asked me, in my opinion, how we assess certain laboratory values. At least that's what I assume you're saying.

Q No. I'm asking you just what I asked you, whether or not there are any texts that indicate that five point two is Going to result in a cardiac arrest in an infant?

A The texts indicate that electrolytes that are out of the range of normal have the potential of causing problems.

Q Well, I know. But there are all kinds of problems aren't there? That's not a very specific term. And you like to be specific, right?

A Uh-huh.

Q There are all kinds of problems that are not as baa as a cardiac arrest; correct?

A Yes.

Q All right. Well, do any of these texts talk about

Five point two producing a cardiac arrest in an infant?

A I'm sure they do.

Q Okay, Which ones?

A I don't know.

Q All right. Now, you say -- was it five four after the arrest?

Five point three.

Five point three. All right. And what is the range of values for normal?

A Well, let's get the Mobile Infirmary laboratory sheet, because it's for each laboratory. And I believe five point one is the upper limits of normal.

Q How about the lower limits?

MR. DUFFY: Normals are on the back, and I don't they worked the back.

A No, they're on the front.

MR. DUFFY: They are?

A Wait just a ninute. It's three point six, I believe, but -- let me correct that. Three point six to five point one.

MR. CUNNINGHAM:

Q And Andy's after the arrest -- was five point three; correct?

A Correct.

Q And what time was that?

A We'll have to find the laboratory sheet. I can't remember all of those details. Unless your copy in your records has the time -- it's covered over by this, so I don't know what time that was.

Q Okay. Well, I don't know either. Would you expect somebody to have done some lab studies fairly rapidly after he arrested?

A Yes.

Q All right. It's five point three. Now, what medication was he given between the time of the arrest and whenever this blood study was done?

A I'll have to go back to the orders. I don't remember all the medicines that he was given.

Q Okay.

A Do you want to do that?

Q Sure.

A Okay. All right. Reading from Mr. Duffy's copy of the Mobile Infirmary hospital records -- I wonder where the resuscitation sheet is. I wonder if it's in the progress notes.

(Pause)

A Okay. I think I've got it here.

Q Okay. What medication was given immediately after the arrest?

A Well, let me first identity from where I am rcading. Do you see a date on here?

MR. DUFFY: This is the first day.

A This is on -- this is, again, reading fron Mr. Duffy's copy of the Mobile Infirnary records on 2-22-78. And thin is the nurses notes.

And at 4:30, Epinephrine point three milligrams intravenously was given. 4:35, sodium bicarbonate ten cc's was given. The heart *rrtc* ~ a thirty per EM;. Atropine point five milligrams was given IV. The heart rate was forty. Sodium bicarbonate ten cc's given IV. Epinephrine point four milligrams. Isuprel pint two milligrams. Heart rate was one ninety.

How far do you want me to keep going? ——

MR. CUNNINGHAM:

Q That's fine. Which of those medications would you expect to have an effect on the potassium level?

A The sodium bicarbonate.

Q All right. Now, the ten cc's -- I think a total of, what, twenty cc's was given?

A That's up until 5:30.

Q All right. Em, how much of an increase would you expect to see in the potassium level by the administration of that?

A I don't know. It's just variable, Mr. Cunningham. I don't know whether I can tell you that.

Q Well, you don't have any idea?

A No.

Q But you would expect to see it increase?

A More than likely. But that may not be the case.

Q Well, more than likely it would increase, wouldn't it?

A Yeah. But I'm saying, you know, I don't know.

Q Well, if the potassium level increased by virtue of the administration of the sodium bicarb after the arrest, wouldn't that indicate to you that his potassium level before the arrest was within normal limits?

A That's assuming, you know, that the blood was not-hemolyzed. There are a number of factors involved, okay? So, you how, i don't know how to specifically answer that. I would have to say that yes, in -- most likely it was higher. How much higher, I don't ha?. It cay not have been any higher.

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Q Okay. All right.

A And if it wasn't any higher, then we're talking about mechanism number two in the cause of the cardiac arrest.

Q All right. And mechanism number two is what?

A Is a bradycardia - vasovagal response.

Q All right. You wouldn't expect to have a child whose potassium was within normal limits to suffer a cardiac arrest from hyperkalemia, would you?

A No, I would not expect that.

Q All right. And don't the facts in this case indicate that Andy's potassium before the arrest was within normal limits?

A That's correct.

Q All right.

A But that was done at 2:00 o'clock.

Q All right. Well, I thought you said earlier you don't know whether it would change or not between --

A Well, I did. But I mean, it may well be higher. I'm just saying that was the level at 2:00 o'clock. We don't know what the level was between 2:00 and 4:20.

Q All right. So you say it might have gotten higher before the arrest?

A It may have, yes.

Q All right, Well, then, if you gave the sodium bicarb twenty cc's, what would you expect to see if it were higher than five point three?

A What do you expect the see in terns of what?

Q It would go down, wouldn't it?

A Well, but it may have been five point six and gone down to five point three.

Q All right. No way to know that, though, is there?

A No.

Q Now, is thcrc anything in the literature that you are familiar with whicn says that you can expect an infant to have a cardiac arrest with a nornal potassium level fron hyperkalemia?

A Certainly I thin!: anybody can have a cardiac arrest at anytime. I mean, if you have an anomalous coronary artery you don't have to have --

Q Well, I didn't state my question clearly. I'm talking about a cardiac arrest produced by hyperkalemia.

A No. I mean, I think if it's due to hyperkalemia, you have to be hyperkalemic.

Q Okay. And you don't know if this child was hyperkalemic or not, do you?

A We -- do you ncan before the arrest?

Q Before the arrest.
A No. The level was five point one.
Q Okay. All right. Now, your second probable cause was a vagovasal (sic) response?
A No.
Q Vasovagal?
A That's correct.
Q Resulting in *teverc* prolonged bradycardia resulting in cardiac arrest; is that right?
A Correct.
Q All right. Now, define for me severe prolonged bradycardia.
A Well, anything longer than thirty seconds.
Q Anything longer than thirty seconds --
A Yes.
Q -- is severe prolonged bradycardia?
A Yes.
Q \bat is bra&-cardia?
A Decrease in heart rate below eighty.
Q Below eighty?
A In this size --
Q So seventy-nine would be bradycardia, right?
A In this sized infant, yes.

Q Seventy-nine would be bradycardia; is that correct?

A That would not bradycardia. That's not severe bradycardia.

Q Well --

A Below forty would be severe bradycardia.

Q Below forty. Okay. Well, is it your opinion that this child hed severe prolonged bradycardia, that is, below forty?

A (Witness nods head affirmatively).

Q All right. Prolonged for how long?

A You know, I don't know. I'm saying that is --

Q Well, under your definition -- what did you say, thirty seconds?

A The heart rate at 4:50 was thirty. That's after medication. So I'd have to assume that the heart rate was less than that at the time the resuscitation was started.

Q Well, if he had a cardiac arrest it certainly would hzvc been less than that, wouldn't it?

A Well, maybe.

Q I mean, it wouldn't be --

A But I mean, you know, you can start and have the heart at a -- you know, ten, twenty, thirty.

Q Yeah. Okay. But at any rate, minus forty you contiacr severe bradycardia?

A In thio child at this age, yes.

Q Okay. And you say prolonged to you means thirty seconds or longer?

A We're again using general *terns*. You know, I don't want *to* be held, you know, to total specifics. Yes.

Q Well, i mean, it was your term, not nine.

A I understand. I'm saying that.

Q So tnirty seconds or --

A I'm just clarifying it.

Q -- longer is prolonged *t o* you?

A Yes.

Q Now, in order to reach a state of severe prolonged bradycardia, wouldn't you expect to child to suffer some other kind of bradycardia?

A I aon't know what ocher kind of bradycardia you're talking about.

Q Well, is there mild to moderate?

A Well, you know, anything decreasing fron a heart *rrtc* that's appropriate for the condition at the time down to

Q All right.

A -- levels which would compromise cardiac function

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would be a -- you know, a aecrease from nornal.

Q All right. And you used anything below eighty as bradycardia?

A Depending, again -- I told you on the clinical --

Q In an infant like this.

A Well, in an infant with certain ocher problems.

Q Okay. Now, you wouldn't expect it to just drop from eighty to forty like that, would you?

A Well, it depends. If it goes into heart block, you will.

Q Well, how about in this *case?*

A Well, I mean, that may well have been what happened.

Q Well, with a vasovagal response resulting in severe pro onged bradycardia, you wouldn't expect to it to drop just from eighty to forty, would you?

A Wait a minute. But you're going -- you know, you've got *to* tell ne what you are referring *to*, mechanism number two, or whether -- what could occur in this chiid. The child could certainly develop mild bradycardia then go into heart block in a nattcr of seconds.

Q Well, is thtt your opinion about what happened in this case?

A It could have been. I told you that it's number one, number two and number three. They are not totally exclusive of each other.

Q Well, I'm on number two now.

A That's not totally exclusive of going into heart block.

Q Okay. Well, what I am trying to find out now is, though, this prolonged — severe prolonged bradycardia, would that be preceded by any changes an heart rate?

A Well, *yes*. I mean, obviously --

Q Okay.

A -- *to* go from a rate, you know, which is appropriate for a child with a particular condition down *to* what we would term bradycardia, yeah. I mean, it would have to decrease.

Q Well, if that, in fact, is what happened in this case, tell me over what period of time the heart rate decreased *to* forty?

A I don't know.

Q You don't have any idea?

A Could be thirty seconds, could be two minutes.

Q Could be ten minutes?

A Possible.

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Q Okay. Twenty ninutes?

A I think down to a rate of forty would be unlikely without any symptoms.

Q Okay, What symptoms would you expect to see?

A You know, you would expect to see exactly what happened in this child, perhaps, you know, a cardiac arrest, arching of the back, cyanosis.

Q Well, wait a minute. Perhaps a cardiac arrest wouldn't be a symptom of it going down to forty, would it?

A Well, you know, you can have have the symptoms that loo:; like a cardiac arrest at that particular rate.

Q All right. I'm tying to find out the symptoms you would expect to see as it-went iron eighty down to forty, which you characterize as severe.

A Cyanosis.

Q All right.

A Shortness of breath. Rapid respirations.

a All right.

A Irritability. Thrashing.

Q All right. What else?

A You know, that's -- you know, I think that's all I can think about right now.

Q All right. And over what period of time would you

expect to see those symptoms develop?

A Well, it depends on over the period of tine that the bradycardia develops.

Q Which, in this case, could hzve been five or ten minutes?

A Well, no. You know, I'm -- you know, not without symptoms. In this case, no. That's not what occurred, because we had no symptoms.

Q Okay. And you conclude because you have -- you had no symptoms, *thzt* therefore it had to have occurred rapidly?

A Rapidly, yes.

Q Is that correct?

A Yes.

Q How is it you know that there were no symptoms during the ten minute period prior to the arrest?

A By reading the depositions of the-parents and the depositions of *the* nurses bringing the child back up to the room. You know, they noted no -- no deviations.

Q What tine did the nurses bring the child back to the room?

A Let ne refer to the record. 4:10.

Q Okay. What time did the child arrest?

A At 4:20.

Q Okay. Now, tell me what the records reflect about the child's condition as noted by the nurses between 4:10 and 4:20?

A Says returned to the room per crib per Ms. Spicer. N infusing.

Q All right. What do the notes reveal about the child's condition between 4:10 and 4:20?

A Well, it doesn't reveal that there is anything abnormal. And usually nurses chart abnormal findings. And if the child is fine, they don't have to put in there that the child is fine, well and in good health.

Q Well, were the nurses in there between 4:10 and 4:20?

A If they returned the child to the room at 4:10, then I assume somebody was in there.

Q From 4:10 to 4:20?

A Well, I don't know whether they were exactly there from 4:10 to 4:20.

Q That's what I am trying to ask you, Doctor. You've got opinions about the case. Do you know is the nurses were there?

A No. I don't know if they were there. And I'd

have to go back to their depositions to be absolutely accurate.

Q All sight, Now, in this list of sips and symptoms of dropping blood pressure, which would you expect to see first?

A No -- dropping what blood pressure?

Q When the presure dropped dcvn to severe, as you characterized it earlier.

A We're not talking about blood precsurc.'

Q Heart rztc. Excuse me.

A Okay.

Q You've listed cyanosis, shortness of breath, rapid resirations, irritability and thrashing?

A Right.

Q All right. Now, in what order would you expect to see those develop?

A I think —

MR. HOLMES: Do you mean if they developed?

MR. CUNNINGHAM:

Q He likes to try to help you because he s --

MR. HOLMES: No, I'm --

MR. CUNNINGHAM:

Q -- worried about whether you can answer it without

any help.

A I think I can.

Q But I think you're doing fine.

MR. HOLMES: I think he's going fine, too.

MR. CUNNINGHAM:

Q So which would you expect to see first?

MR. HOLMES: I object to the form of the question,

A I don't know. They can be any -- they can come together, be in any sequence.

MR. CUNNINGHAM:

Q Okay. Now, tell me how you concluded that this child did not become cyanotic before 4:20?

A Well, by the observation of the -- you know, nobody -- nobody made any note to the fact that *the* child was cyariocic. It was only in the nurses observation when they entered the room that the child was slightly cyanotic at that time.

Q Nobody made any note that the child was cyanotic?

A The depositions of the parents and the mother-in-law did not state that the child was blue, cyanotic.

Q Well, there are varying degrees of cyanosis,

aren't these?

A Well, I think that if somebody had a cardiac arrest --

Q We're not talking about a cardiac arrest, are we?

A Well, if somebody had significant cyanosis enough to be prompting a cardiac arrest, I think that somebody might see it.

Q Well, we're not to the cardiac arrest yet.

A But you're -- ten minutes --

Q I'm talking about the period of time that you and I have been discussing, that ten minute period --

A Right.

Q -- when the blood pressure may well have been -- or the heart rate may very well have been dropping.

A That's correct.

Q Okay? That's what I am talking about. Now, tell me how it is you conclude that at no time during that period was this child cyanotic?

A Well, I'm telling you by the observations in the depositions and chart that I've read.

Q Well, now, the nurses weren't in there during that period, were they?

A They were in there at 4:10.

They weren't in there between 4:10 and 4:20?

A The parents in there between 4:10 and 4:20.

Q Were the nurses in there, according to their deposition, between 4:10 and 4:20?

MR. HOLIES: For how long?

MR. CUNNINGHAM: Any period of time.

A It's my recollection that they were. But I'll have to go back and verify that.

Q It's your recollection that they were?

A Yes.

Q All right. And so if they were, you would expect them to see some of these signs and symptoms?

A If they occurred, yes.

Q Okay. How about if they weren't in there, now would you expect the parents to diagnose shortness of breath?

A Let's clear up something, Mr. Cunningham. You know, again, we're not expecting the parents to do anything, okay? This is a child that's not expected to have a cardiac arrest. Nobody's looking for this child to have bradycardia.

Q Right.

A Why would -- you know, the nurses, if that was expected and everything was reflected, the child would have been put in the intensive care unit to observe.

Q Well, now, things --

A But what you're --

Q -- happen every day in the hospital that aren't... expected, don't they?

A That's right. Exactly. Like this, in this case.

Q All right. And you look -- you check patients for a reason, don't; you?

A Well, they were there ten ninutes before the event.

Q All right. Well, I'm asking you whether or not this patient developed any of those signs and symptoms before he arrested?

A Not that I can find.

Q Okay. Ana you conclude thst because there is E,? absence of any note in the record; io that right?

A No. I conclude that because there is no note to the effect that that occurred, which is the way most people chart. You chart positive findings the majority of the time.

Q Okay. All right. Well, did thio child become cyanotic before the arrest?

A Not as reflected in the chart.

Q Hc did not?

A Iio.

Q Okay. Did he become snort of breath?
A No.
Q Did he develop a rapid respiratory rate?
A No.
Q Diu he beconc irritable?
A No.
Did he thrash?
A No.
Q All rignt.
A Which means that the event occurred acutely.
Q Which means what?
A That the event of the cardiac arrest occurred acutely rather than over a period of tine.
Q All right. Or it means that it occurred over a period of time and nobody caught at; correct?
A No. I've already stated that if the symptoms were there, somebody would have seen them. And I would think that parents in a room and a child that is irritable, thrashing, cyanotic, would have been observed.
Q If the symptoms were there, somebody should've seen them?
A No. I said --
Q Is that corrccc?

A -- somebody would have.
Q Oh. So you can't --
A You said should have.
Q -- conceive of the possibility that they were there and not seen?
A Oh, I think anything *is* possible, Mr. Cunningha.
Q All right. Okay.
Q But we deal the probabilities.
Q You don't know, as a matter of fact, whether they were or weren't there during that period, do *you?*
A Okay. I'll try *to* do it one more time.

MR. HOLMES: Who was there?

MR. CUNNINGHAM: These signs and symptoms.

Q You don't know whether they existed leading up to the arrest or not?
A Okay. I'll try to state it one more time. According to the records, the review of the depositions and the observations, they did not exist.
Q Okay. If they did exist, should the impending cardiac arrest have been diagnosed?
A May have been. May have been just something -- you know, something totally unrelated. But should've deserved attention. But again, it didn't exist. And I

assume you're talking hypothetically, because those are facts thet arc not in evidence, *ut* least in the charts that I have read.

3 Okay. But if those sips ana symptoms did exist, the child should have had some attention; correct?

A Yes.

Q All right. What would you want to do for a child who began to develop any of these signs and symptoms in the context or' this case?

A Well, you try to find out: what's going on.

How do you go about doing that?

A Well, again, you *go to* the bedside, you listen to the heart, feel the *chest,* see whetner the airway is okay and do EKG, if that's necessary.

Q All right.

A You know, to *try* to assess what it is, I mean, it could be a seizure, it could be anything.

Q Well, how about if you check the heart rate and it's down to about fifty, what would you do?

A Then I would be concerned that the child is nor not getting adequate oxygen --

Q All right.

A -- or some other cause of bradycardia. I mean, is

the child going into heart block.

Q All right. And what would you do?

A Well, then I would do what's based on the findings. You have to tell me exactly whzt you want and I'll tell you what I would do.

Q You would treat the child's bradycardia?

A No. I would —

Q Do something to try to restore the heart rate?

A I would treat the child's clinical condition, one of which the symptoms is bradycardia.

Q All right. And if you did that, you would do it with with the hope of avoiding a cardiac arrest, wouldn't you?

A Yes, or other things.

Q Okay. What was this child's heart rate at 4:10 when he was brought back to his room?

A I don't know.

Q Is it charted anywhere in the record?

A Not that I can find.

Q Isn't heart rate an important vital sign in a child this age under these conditions?

A Well, certainly. But again, it depends on how the orders were written as to how they should be taken and

whether, even if they're not written, then if it dictates by the clinical condition that it ought to be taken, then someone would do it,

Q Well, should somebody have taken this child's Peart rate?

A Plot if the child's condition didn't change any. Why would you want to do it at that particular ttne?

Q so the only --

A The only focusing on that. tiuc is in retrospect, because we know that ten minutes later this child had a cardiac arrest. But if you take a hundred patients in the hospital, why woulci you want to do it?

Q Well, what was the heart rate at the time of the cutdown?

A You know, I cion't know.

Q Well, is thrt a tine you might want *to* check the heart rate?

A I -- you know, they may well hzve. I don't know what happened.

Q Well -- so you don't know what his heart rate was at the cutdown?

A The child had no symptoms, okay, of a decreased heart rete.

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Q Well, you have that, but you don't know what the heart rate was?

A No. As I told you, I don't know. It is not charted.

Q All right. Well, see if you can find it, if you will.

A I said it's not charted.

Q It's not?

A That's correct, at least that I can find in the chart.

Q Well, was it charted immediately before the cutdown was done?

A What do you mean by immediately?

Q Well, within thirty minutes?

A It was charted at 11:25.

Q All right. When was it charted after 11:25?

A It wasn't.

Q Is there any reason not to chart a heart rate on an infant who's having a cutdown --

A I don't --

Q -- in his condition in the hospital?

A That's dictated by the -- you know, the orders and the physicians and so forth. Sometimes it's not necessary.

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If the child, according to the physician who's in attendance, and the nurses, is stable and having no problem.

Q So a physician orders how often the heart rate should be checked?

A That's correct.

Q What do the orders in this case reveal insofar as checking the heart rate?

A Okay. I'll have to refer to the records, if I can find then.

(Pause)

A Okay. Reading from the admitting orders on 8-28-78, and there are -- there is no specific request for vital signs. However, most physicians, if it's not requested, either t.i.d. or q.i.d.

Q What does t.i.d. mean?

A Three tiaes a day or four times a day.

Q What about q.i.d?

A Four tines a day.

Q Do you know which one was done on this child?

A No. I mean, we only had five hours, so I don't know. It obviously was changed after that.

Q Okay. What is a vasovagal response?

A That's when the impulses from the vagus nerve go

to the heart and reduce the heart rate.

Q Impulses from the vagus nerve go to the heart?

A Uh-huh.

Q What causes thcn *to* go there?

A Well, I mean, that's the innervation to the heart *fron* the brain.

Q Well, does the vasovagal ncrvc always innervate tha heart?

A In most of us, *yes.*

Q Okay. Well, why would it cause a reduced heart rate?

A Well, because that's what happens physiologically if you get excessive impulses from the vagus.

Q Okay. Well, when you say a vasovagal response, is it your testimony, then, that Andy had excessive impulses running from his brain to his heart through his vasovagal nerve?

A If that's what happened *to* him, yes.

Q Okay. Now, how do you know that?

A What do you mean how do I know it?

Q How ao you know he had excessive impulses going between his brain and his heart through his vasovagal nerve?

A Because that's the mechanism in which vasovagal

effects occur. And if that's what happened, that's what occurred. Now, there are many cause of a vasovagal response.

Q Well. what caused his vasovagal response?

A I don't know.

Q What caused him to have impulses going between his brain ar his heart through his vasovagal nerve that caused the heart rate to be reduced?

A It could be any one of a number 04 things. I mean, it could be reflux, you know, where food can just go up and down the esophagus. It can be stimulation. It can be pressing on the neck.

Q Can it be choking?

A Only after significant hypoxia ensues. But if that occurs, you would have sounds that are made. You would have noises.

Q So *it* could be choking?

A Well, no. But you'd hzve symptoms with the choking. Okay 3

Q All right. And could it bc laryngospasm?

A Yes. But again, one has symptoms of stridor. 'lo u have other things that go along with that.

Q All right. Eo you can have laryngospasm that

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results in a vasovagal response which causes a reduced heart rate?

A Yeah. But you have to have the clinical picture of laryngospasm.

Q Well, now, you don't always have to have a perfect clinical picture for you to have laryngospasm, do you?

A But you have to have something.

Q You have to have something?

A Yeah.

Q Like what?

A Well, you have *to* have either a noise, stridor. I mean, you have to heve something that would *go* along with laryngospasm.

Q Did the child have anything that goes along with laryngospasm?

A Not that I can find.

Q Nothing?

A Nothing.

Q Okay. Do you know why about three doctors thar treated him diagnosed the problem as laryngospasm?

A Well, I would -- can give you some reasons why I think that occurred. Because I think in any situation, as in medicine, one enters into a differential diagnosis. And you

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consider a lot of possibilities. And at the tine you do that, you write those down, to be perfectly honest.

But that wasn't the case. And after they go back and have the tine to reflect, as we have over six years, it is not a possibility,

Q All right, What *else* can cause *this* vasovagal responsc?

A In -- usually increased intrathoracic pressure, decreasing venous return.

Q All right. What else?

A I'm sure there are otkcr causes. I *just* can't think of them right now.

Q All right. Do I understand your testimony to be thzt you don't know if he had a vasovagal response that caused the bradycardia?

A My testimony is that given this clinical situation, given the findings *that* are recorded in the chart and given the subsequent sequence of events, I think that the two or three possibilities thzt I have listed are the probabilities that were active in the problem that this child had.

It's getting to be about 12:00. I need to take a break or --

MR. CUNNINGHAM: We can take a break. That's fine. Come back at -- what time y'all want to come back?

(Off the record discussion)

(Lunch Break)

MR. CUNNINGHAM:

Q Dr. Chalhub, what is *your* opinion as the cause of the vasovagal response resulting in severe prolonged bradycardia, which is item number two on your list of probabilities?

A Well, you know, as I've already said, it could be, you know, certainly a number of things that caused *this* particular event.

In this child it may well have been reflux, it may well have been excessive stimulation, it may well have been just the -- you know, the condition of the child. But more than likely, possibly esophageal reflux.

Q Esophageal reflux?

A Yes.

Q What is that?

A That's where contents of the stomach just go up a short way in the esophagus and stimulates the vagus nerve.

Q Okay. How high up in the esophagus?

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A Well, I mean, it has to be certainly below the mouth and the throat because there was no vomitus.

Q Okay. Well, how high up do you have to have esophageal reflux in order to get this vasovagal response?

A It can be -- you know, it can be just right at the GE junction.

Q Okay. So when you say esophageal reflux, what is the difference between that and voniting?

A Well, many people can have reflux coning from the stomach up into the esophagus. If it doesn't come out the mouth, it's not vomiting.

Q All right. So the difference is how far up it goes up the digestive tract?

A That's correct.

Q So you think it may have been esophageal reflux which stimulated the vasovagal nerve?

A Yes, that is a probability.

Q Okay. Now, where is the vasovagal nerve located?

A Well, the vagus comes from the brainstem, the tenth cranial nerve. And it has multiple pathways and goes to multiple organs.

Q All right;. well, which one of the multiple pathways was stimulated in this case?

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Just the esophagus.

All right.

A And then there are impulses that go back up into the brain, and then it comes back down to the nerves that go to the heart causing the bradycardia.

Q Okay. And I guess this is a documented condition in the medical literature?

A Yes.

Q Okay. Now, many people have esophageal reflux without having their vasovagal nerve stimulated to the point that it causes bradycardia and cardiac arrest; is that correct?

A That's correct.

Q Why, in Andy Rinkle's case, did his esophageal reflux cause bradycardia and cardiac arrest?

A I don't think anybody can tell you that, Mr. Cunningham. It's the same thing with a whole host of -- in other diseases, why everybody doesn't have the same station, why children who get viruses get encephalitis versus children who don't get encephalitis with the same virus. I don't know. There's a certain host response that's unpredictable.

Q How many otherwise healthy children have you treated who had esophageal refluz which caused stimulation of

the vasovagal nerve to the point that they had a cardiac arrest?

A Well, this wilt not a healthy child. The child had pyloric stenosis with metabolic aberrations, and — if you are referring to this particular situation. A child that's absolutely nornal without any problem, I'd have to say none.

But that's not usually the children that we see that have problens.

Q Okay. Let ne —

A They may not have any other medical problens.

Q All right.

A But if thcy cone in with GD reflux, then that may be their problcm, that may be their only problem. It's especially frequent in newborns.

Q All right. Well, how many have you seen vbo had pyloric stenosis a month or so old who had a metabolic picture like Andy's who suffered esophageal reflux which caused cardiac arrest?

A I told you before, I've not seen any child with pyloric stenosis that has had a cardiac arrest. But I have seen children with pyloric stcnosis that have had a certain morbidity related to their condition and the degree of problem when they came in.

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Q All right. Well, how many cases are you familiar with in the medical literature where a child with pyloric stenosis at four to six weeks of age with the metabolic picture that *Andy* had suffered esophageal reflux which resulted in vasovagal response and ultimate cardiac arrest?

A I'd have to go back and look at the early British literature. I just don't know.

Q So you've never experienced that personally?

A No. The reason I say that is, the British treat pyloric stenosis differently than the individuals in the United States. They use a medical approach as opposed to we using a surgical approach, because we think it decreases hospital time and morbidity.

Q All right. When you say they use a medical approach, you mean they treat the condition without doing surgery?

A That's correct.

Q What is the mortality rate in Britain with that procedure --

A I don't know.

Q -- for pyloric stenosis?

A I don't know the recent data.

Q Well, what does the old data indicate?

A I just don't know that right now.
Q All right, Well, pyloric stenosis, then, can be treated medically as opposed to surgically; is that correct?
A Yes.
Q And can be successfully treated medically; is that correct?
A It takes a prolonged period of time, six to eight weeks.
Q All right. And --
A And that doesn't always result in treatment -- I mean treatment success.
Q Well, how about here in the literature in the United States where pyloric stenosis is treated surgically, how many documented cases can you tell us about where a child of Andy's age and wit? his metabolic picture had esophageal reflux which resulted in cardiac arrest?
A You know, I don't review that literature, as a neurologist, frequently. So I don't know of the case histories. I mean, there may be a number, there may be none, I just don't know of it.
Q Okay. All right. So you don't know of any in the medical literature and you've never experienced any yourself?
A I didn't say they didn't exist. I said I

personally don't review that literature, so I don't know it.

Q Okay. Well, that's what I'm trying to find out. You don't know of any in the medical literature personally and you haven't experienced it?

A That's because I don't review the literature.

Q I'm not asking why you don't know. I'm just establishing the *fact* that I think you have told me you don't know of any?

A That's correct.

Q Okay. And you've nor experienced any?

A No.

Q Okay. Now, how often would you guess children with pyloric stenosis of Andy's age and metabolic picture suffer esophageal reflux?

A I don't know how to answer that.

Q Well, did Andy suffer esophageal reflux prior *to* the tine of his cardiac arrest or during the ten or fifteen minute period thereto?

A I don't know about the ten or fifteen minute period. But I'm certain -- within the previous days when he vomited, I'm almost certain he had some esophageal reflux because he had an obstruction at the duodenum.

Q Okay. And he vomited numerous times over a period

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of days before, didn't he?

A Yes.

Q Well, why is it that he didn't suffer a cardiac arrest when he had esophageal reflux on any of those occasions?

A Same reason that -- in other situations, again, why people who have chest pain don't have heart attacks, I don't know. It's a host response.

it's an individual response to a certain stress.

Q Well, but if I understand you correctly, it's your opinion that he had esophageal reflux on a number of occasions with no ill consequences?

A That doesn't make any difference.

Q I didn't ask you if it made any differences. Is that your opinion --

A Well --

Q -- that he suffered esophageal reflux on a number

of occasions before the time of his cardiac arrest which caused him to no particular problem?

A An I allowed to answer the question the way I want?

MR. DUFFY: Sure.

A Can I answer it?

MR. DUFFY: Go ahead and answer it.

MR. CUNNINGHAM: Sure.

A As I have said, you know, I've given you the probabilities in the order one, two, three. This is one probability. I have stated that, you know, based on the fact that he was vomiting for that period of time, he most certainly had gastroesophageal reflux. Because I'm sure that there were times when the vomitus just didn't get to the mouth and -- just by the obstruction at the end of the stomach. So yes, it does occur.

Q Okay. And on none of those occasions did it cause this vasovagal reflex?

A No. Because he hadn't had the cardiac arrest --

Q Okay.

A -- until he got into the hospital.

Q All right. Why didn't it cause this vasovagal reflex on those other occasions?

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A I don't think anybody can tell that you. I can't tell you that.

Q You don't know?

A No.

Q All right. What was it about this occasion that led the esophageal reflux to produce the cardiac arrest?

A Again, I don't have any way of telling you that. We have a tragic situation of an event that occurred in a child that we have to explain.

And the most logical explanations, in my opinion, are these. There are no other explanations that I can come up logically that would cause it.

Q I understand what your opinion is, but I'm trying to find the basis for your opinion.

A I'm trying to give you that basis. Because this is a mechanism which causes cardiac arrest in a child in this particular situation. I know of no other mechanisms.

Q You know of no other mechanisms that can cause a cardiac arrest in a child in this situation?

A Other than the ones I have given you, given the laboratory data and the findings and the exam of this child..

Q All right. Well, what is it in the medical literature that you can tell us about that supports your

theory in this case that it was a vasovagal response to esophageal reflux?

A It's documented in literature that I have had the opportunity, since I have been in medicine, to review, that esophageal reflux can cause vasovagal responses which can result in prolonged bradycardia which results in a cardiopulmonary arrest.

This is a circumstance in which that can occur. This is a differential diagnosis. This is a differential approach to a certain problem.

Q Has all of that been in the medical literature for a significant period of time?

A That this particular entity can occur?

Q Yeah.

A Yes.

Q Okay. And do you have to be a pediatric neurologist to be familiar with it, or is that something that most physicians would know about?

A I can't speak for most physicians.

Q How about pediatricians?

A I can't -- you know, I'm speaking for myself.

Q Well, how about Dr. McAtee?

A You'll have to ask Dr. McAtee.

Q Well, then, are you the only fellow that had any dealings with Andy Hinkle that you think knows about that reflux?

A No. But you'll need to ask then whether they know about it or not.

Q Okay. Did anybody, including yourself, mention anywhere in the hospital record that as a probable or possible cause of his cardiac arrest?

A I wasn't asked to express that.

Q Did you or did anybody else ncntion anywhere in the hospital records *thtt* as a probable cause of his cardiac arrest?

A If I was asked–to express the probable cause, then I would hcve put it down.

Q Is the answer, no, you didn't put it down in the record?

A No, I didn't put it down in these three things as I have outlined to *you.* today.

Q Did you put down any of them?

A Yeah. I put down cardiac arrest.

Q Did you put down any of the three "dings you listed for me as the probable cause of the *cardiac* arrest?

A I don't recall whether I termed it in that way,

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no.

Now, what do the texts say insofar as the vasovagal response and the prolonged bradycardia in terms of length of the bradycardia?

A I don't understand that question.

Q Well, you said that the texts recognized that esophageal reflux can result in vasovagal response with prolonged bradycardia; is that right?

A That's correct.

Q I'm trying to find out what the texts and the literature say about the prolongation or the bradycardia, how long you would expect to see it prolonged?

A Well, I mean, you know, it depends, again, on the host, the age, etcetera, and how severe the bradycardia is, I mean, whether it's, you know, seventy-nine, eighty-one, twenty-three and then whether symptoms will occur.

Q Well, what --

A Different hosts can sustain certain things in different tines.

Q All right. Well, what does the literature say about hosts that are four to six week old infants in the hospital?

A They certainly are liable to have a

Cardiopulmonary arrest if the bradycardia is significant, and significant being below forty for a period, you know, of greater than thirty seconds,

Q Okay. So the texts refer to a period of greater than thirty seconds?

A The ones that I am familiar with, yes.

Q All right. In the discussion of the prolongation of the bradycardia, they talk about thirty seconds?

A Well, you know, again, you're -- this comes from many sources. I mean, I can't get an article out or the textbook out and say, you know, for your particular situation in this particular case with all of these laboratory -- it just doesn't exist.

You have to -- you know, as we do in medicine, you correlate a whole host of case reports, articles and observations by individuals and, you know, make logical conclusions.

Q We -- does the literature discuss ranges of the prolongation of bradycardia under these circumstances?

A I'm sure it does.

Q All right. What ranges does it give for an infant this age?

A You know, I'll have to go back and get the source:

and give you the ranges. I mean, I'm just guessing tight now because they come fron different sources.

Q So you don't know?

A No. I do know. I just can't g ve them to you specifically right now.

Q Well, give thcn to me generally,

A I can't. I've given you the general ranges. Below forty, thirty seconds. That applies whatever the mechanism is. Okay? I mean, whether the mechanism is heart block, whether the mechanism is vasovagal syncope -- I mean or vasovagal response.

Q Well, I'm talking about the esophageal reflux with vasovagal response.

A Well, the end result is the sane.

Q I'm not asking about the end result. I'm trying to --

A No, no, wait a minute. When I am talking about -- the ena result is the bradycardia. Okay? That produces the same mechanisms, the same physiologic response. There are a nmber or things which can cause the same physiological response like a number of things cause a heart attack.

Q Well, that's interesting, but that's not what I a asking you. I'm trying to get you to tcll me --

A Well, I thought that's what you were asking.

Q — what the literature says about the length of bradycardia, length of time this prolonged bradycardia — does the literature discuss how long it will be prolonged in an infant this age?

MR. HOLMES: Excuse me a minute.

(Off the record)

A Again, it's the same mechanism. The bradycardia, if it's greater than thirty seconds, can produce symptoms from whatever cause it is, whether it's vasovagal, whether it is heart block, whether it's electrolyte disturbance.

Q All right. I'm not asking you about the mechanism, okay?

A Well.

Q I'm trying to find out minutes or seconds.

A I've told you that. Thirty seconds.

Q That's what the literature says?

A That's what I have said in relating to the mechanism of vasovagal response as a result of GE reflux.

Q Okay. Now, I understand that's what you're saying. I'm asking you what the literature says.

A I'm saying that based on my review of the

literature. I've already said that.

Q Okay. All right. Now, the third probability you gave was a possible anomalous coronary artcry resulting in cardiac stress; is that correct?

A Or myocardial infarction.

Q Okay, Now, tell we all the evidence in the record that indicates this child had an anomalous coronary artery?

A Well, the only evidence is the cardiac arrest. And that nay be the *only* symptoms when the child has that problem.

Q Only evidence of en anomalous coronary artery is a cardiac arrest?

A That's it. There's no other way to know it until that event: happens. You know, it's a cause of sudden unexpected death in a number of infants.

Q All right. Well, other than the fact that he had a cardiac arrest, what evidence is there in the record of anomalous coronary artery?

A There isn't any. one would have to do a coronary arteriogram, and you don't do that on a six week old infant.

Q Well, tell ne what kind of anomalous coronary artery you think ne had.

A You know, I don't know what one he had because

there's no arteriogran. I mean, the --

Q Well, there are all kinds of different ones, aren't there? I mean, there are all kinds of anomalies in a coronary artery, aren't there?

A Yeah, But one which would compromise the blood flow *to* the heart wall --

Q Well, what kind is that?

A Where thcrc *is* an aberrant or the artery is not forned.

Q Well, I'm talking about what kind of abnormality?

A I'm saying thet either the artery is not formed or *it* goes to one coronary artery and it's just not perfusing the myocardium.

Q When you say it's not formed, what do you mean?

A Congenitally it didn't forn.

Q Didn't forn at all?

A NO.

Q All right.

A Or formed improperly.

Q Well, did this one not form at all or did it forn improperly?

A I don't know that.

Q Don't have any idea?

A No.

Q Mell, what would be the signs, if any, of one that didn't form at all?

A Cardiac arrest.

Q And that's the first indication anybody would have would be a cardlac arrest?

A That's the way it occurs in the majority of the cases.

Q All right. How abour: if it were formed improperly, whet would be tho first indication?

A Well, I Dean, you may have nothing, you know, no indications.

Q Well, you may hzve nothing. But what night you have to give you an indication before you —

A If you have a cardiac —

Q — *hrve* a cardiac arrest?

A — arrest, some children can, I suppose, have shortness of breath, chest pain, etcetera, I mean, it doesn't have to occur in six weeks. It can occur *at* a number of tiaes.

Q So therc arc signs and symptoms that may be indicative of this cardiac anonaly?

A Can.

And what would those be?

A You know, again, the symptoms of myocardial ischenia, chest pain, shortness of breath, possibly. I don't know. There are a whole host of things. That's not my particular area of expertise.

Q Well, what are the other indications other than chest pain and shortness of breath?

A Indications of what?

Q Signs and symptoms of this cardiac anomaly that you think he may have had?

A I'm just telling you, generally speaking, it would be the signs of congestive heart failure, signs of myocardial ischemia, which are pretty general.

Q Well, dia he have any of those signs?

A No.

Q Well, wouldn't you expect to see those if he had a cardiac anomaly?

A Ko. I've Urea& told you — now, what cardiac anomaly are you talking about?

Q Well, any one that you are talking about. Because as I understand it, you don't know which one you're talking about.

A I'm talking about aberrant or anondous coronary

artery. I'm not talking about a ventricular septal aefect or an atrial septal defect or tetralogy of Fallot.

I'm talking about just an abnornal coronary artery. The majority of those cases arc undiagnosed, they don't hzve any symptons that they present, ana suddenly a child will cone in in respiratory distress and shortness of breath and die.

Q Okay. Well, how did this child's aberrant or abnormal coronary artery produce his cardiac arrest?

A Because -- I mean, I must say, the problem -- you know, if that's indeed what occurred, then thcre was lack of blood flow to the myocardium and it interfered with the conduction system, there was a cardiac arrlythmia and a cardiac arrest,

Q How much lack of blood flow?

A I don't know what you nean.

Q What was the extent of the lack of blood flow?

D. HOLMES: Do you mean if it was?

A Hypothetically?

MR. CUNNINGHAM:

Q This is your opinion, as I understand, of what happened.

A Well I'm saying it's a third probability, okay?

Okay. Well --

A I don't know how much lack of blooa flu?. Whatever it takes to stop the heart beating. And that varies for every individual.

Q So you'd just have to guess on that?

A Well, not only -- you'd have to see whet the coronary artery distribution is and then you would make a guess.

Q Okay. You say it resulted in cardiac stress, this anomalous coronary artery?

A I said it could have.

Q Could have? Or a myocardial infarction?

A That's correct.

Q What is a myocardial infarction?

A A heart attack,

Q All right. So it could be that this anomalous coronary artery caused this six week old -- four week old child to have a heart attack?

A That's right.

Q Well, is heart attack a medical definition of a myocardial infarction?

A No. That's a layman's definition.

Q What is the medical definition?

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A A myocardial infarction is a myocardial infarction, That's a heart attack. The layman's definition is heart attack. Myocardial infarction is a medical term.

Q What does the tern infarction mean?

A It means lac!; of blood flaw to an organ with tissue damage.

Q All right. And the lack of blood flow in this case would have been from where to where?

A From the aorta to the coronary arteries to the myocardium.

Q Would there be any signs and symptoms of that?

A The ones I've already given you. Cardiac arrest: and/or other symptoms.

Q Well, and/or other symptoms that would precede the cardiac arrest?

A They may.

Q Correct?

A The majority of the cases with anomalous coronary arteries don't have a whole lot of symptoms beforehand.

Q Well, do the majority of people that have a myocardial infarction have some sort of symptoms beforehand?

A That's different.

Q Do the majority of people with a myocardial

infarction have sone symptoms beforehand?

A We're talking about adults in a different situation,

Q Well, I'm talking about myocardial infarctions right now,

A Yes. But I'm talking about as a cause of a coronary artery. There are many individuals that come in -- I mean, they're just sitting et hone, have -- clutch their chest and die. Okzy? They nay arch, they may htve a seizure, they nay do exactly what this child did.

Q Many of them that don't, too, aren't there --

A That's true.

Q -- that havc signs and symptons?

A Abs01utely.

Q Okay. What's the percentage?

A I don't know.

Q Bave you ever had any specialty training in diseases of the heart?

A As a pediatrician.

Q All right. Tell me where you received that.

A At the University of North Carolina.

Q All right. Who was the chairman of the department?

A Floyd Denning.

Q Is he written in the field?

A He's in infectious disease. What are you talking about? Are you talking about -- let me -- maybe I don't understand. Do you mean whether I have had a fellowship in pediatric cardiology?

Q No. Just training in pediatric cardiology?

A Yes. You rotate on the pediatric cardiology service as an intern and as a resident.

Q When was that?

A 1971 and in 1973.

Q All right. Now, tell me what training you have had since 1973 in pediatric cardiology?

A Just repeated clinical exposure. I go to pediatric intensive care sessions, I give them.

Q Have you written in the field of pediatric cardiology?

A No.

Q What do you consider to be an authoritative text in that field?

A You know, I don't consider any of the texts to be authoritative. I think that, you know, a number of people make contributions in the texts. And, you know, we have to

apply it as the situation dictates.

Q Do you know of any textbooks in the field?

A Yet.

Q What are they?

A Nadas's Textbook of Pediatric Cardiology.

Q Spell that, please.

A N-A-D-A-S, I believe, or two A's.

Q Any others?

A Willis Burst, Textbook or Cardiology. Cecil and Lobe, Earrison.

Q Okay.

A And those are all textbooks. They are contributions made by everybody. But, you know, they are general things. You have to apply that to a situation in which you are dealing with.

Q All right. And would they discuss the subject of anomalous coronary artery resulting in cardiac stress or myocardial infarction in an infant?

A I'm sure they would.

Q Did you review any of those in --

A Over the years --

Q -- forming your opinions in --

A -- I have,

Q — this case?
A No.
Q How many infants have you cared for in the past who have had this possible anomalous coronary artery resulting in cardiac stress or myocardial infarction where you had no idea about it ahead of tine?
A Two.
Q Were they diagnosed by autopsy?
A Yes.
Q Okay. What signs and symptoms did Andy Hinkle have that are consistent with anomalous coronary artery resulting in cardiac stress?
A Cardiac arrest.
Q Is that the only one?
A Yes.
Q What signs and symptoms, if any, are recognized in these textbooks on pediatric cardiology as preceding cardiac crest resulting from anondous coronary artcry?
A The ones I have already listed for you.
Q Okay. And the majority of the tice, would you expect to see the cardiac arrest occur without any signs and symptoms first?
A Again, at least in the experience that I have,

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that's certainly the majority, two out of two. Now, obviously I don't see a lot of children with anomalous coronary arteries because I'm a neurologist.

Q Well, how about according to tile literature in pcdiatric cardiology?

A Hell, I'd think that you woula then have to go to a pediatric cardiologist.

Q You don't know what the literature says?

A I don't review that literaturc. I near,, I can only handle certain specialties.

Q Okay. Now, did you ever oruer or suggest that *any* tests be performed *to* determine the condition of this child's coronary arteries?

A That was not my responsibility.

Q I didn't ask you if it was your responsibility. I asked you if you did it.

A No.

Q All right. This child was resuscitated, as I understand it, and lived for a period of tine after his cardiac arrest, did hc not?

A That's correct.

Q vas any surgery doze to correct any anomalous coronary artcry?

A NO.

Did he have any special treatment for an anomalous coronary artcry?

A They're isn't any treatnent.

Q There is no treatment, no surgical treatment?

A No.

Q Wcll, what do you do in child who has an anomalous coronary artery who suffers a cardiac arrest and fs resuscitated? What do you do?

A You would hope you could keep them alive until their myocardium revascularizes.

Q Well, did you keep him alive until his myocardium revascularized?

A We don't know whether he had that, Mr. Cunningham. But obviously he, was kept alive for an extended period of tice afterwards.

Q Well, tell me what efforts were made and what treatment was rendered for *is anomalous coronary artery which caused his cardiac arrest?

A I did not say that caused his cardiac arrest. I said that's a differential diagnosis. Obviously, there was no coronary arteriogram done. There was no way *to* document *it,* He had no further problems with it.

Q Well, having a cardiac arrest io a big problem, isn't it?

A I understand that. But since there's no surgical therapy, you don't put somebody at risk to do a coronary arteriogram unless it's highly suspected.

Q So is it your tcstinony that if you have an infant who suffers a cardiac arrest as e result of an anomalous coronary artery, that you do nothing after that?

A No, I did not testify to *that.*

Q Well, what would you do?

A If I suspected highly that that was the case as the leading probability, tncn I would get a cardiac consult, ask him his opinion and look into it.

Q Well, did anybody cvcr get a cardiac consult OR Andy Hinkle?

A No. Obviously, they ciid not feel that that was the *case.* But they had the pulmonologist, a pediatric pulmonologist and adult pulmonologist who certainly have a great deal of training in cardiology. They did not feel that was the case.

Q Well, did you talk to them ana tell them that you thought that was right up on the list of probabilities and somebody ought to get a cardiac consult?

A No, because I did not think that was the case. You asked me to list what I thought --

Q And You still didn't think it's the case, do you?

MR. DUFFY: Let hin finish. Let him finish, please, sir.

MR. CUNNINGHAM: Go ahead.

A I told you what I thought the two most likely probabilities were. The third is a list thst you have to include in any child thet has an unexpected cardiac arrest.

Q Okay. Well, wouldn't you agree with me that it's highly unlikely that that's what caused his cardiac arrest?

A I don't know that.

Q You don't know?

A No. I'm not going to agree.

Q So you would agree that it is a likely cause?

A No. I just said it's in the differential diagnosis.

Q Well, did you ever put it in the differential diagnosis on this hospital chart: for Andy Hinkle?

A Again, I vas nor asked to do that. I was asked to take care of him neurologically and his seizures and his hypoxic ischemic encephalopathy. They had a pediatrician, several podiatricians, a pediatric pulmonologist, adult

pulmonologist, and that is their responsibility.

Q Well, did you tell any of them you thought he night have an abnornal coronary artery which caused this cardiac arrest?

A No.

Q Why not?

A Because

Q Because why?

A Well, because I did not think that that vas tnc likely cause at that tine.

Q Well, why do you think it is now?

A I didn't say *it* was the likely cause at this tine.

Q Well, do you think it is an unlikely cause at this tine?

A I think it's third on the list or several things. And in all likelihood, as I have said, it is -- you hzvc *to* list it in a differential diagnosis.

Q Well, die any physician at anytime in the care of Andy *that* you know about request a cardiac consult to determine whcrhcr or not he had anomalous coronary artery?

A Not at the Mobile Infirmary. Whether thct was done at the University Hospital, I don't know. I'd have to go back ana just look and see.

They ao nost of their own cardiology in the neonatal intensive care unit, so they may well have looked carefully at it.

Q But you don't know if they did or did not?

A Oh, I know they looked carefully at it, Whether they looked particularly for anomalous coronary artery, I don't know.

Q So for all you know, they may have looked for it and determined that it wasn't there?.

A That's correct.

Q Okay. ..

A No, they may have looked for it and felt that it wasn't there.

Q Okay.

(Off the recora)

MR. CUNNINGHAM:

Q Doctor, on the admitting lab reports, are the values chat you tola us aboct earlier that you said were nornal values -- are they the same for a child as they are for an adult?

A In the electrolytes, yes.

Q Okay. Now, you have also told us that the chila had a cardiac arrest. Would you tell me every indication or

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direct indication in the chart that the child's heart actually stopped?

A The fact that at the time that they started resuscitating, the time they were able to obtain cardiac rhythm it was below thirty. So I have to assume that it may well have gone -- you know, it may have been ten or twenty. But I would assume that that's essentially equivalent to lack of cardiac output.

Well, is there any indication in the chart itself that it was below thirty at anytime?

A Yes.

Q Show me that.

A At 4:50 it was thirty. Okay. Excuse me. It was thirty. I'm reading again from the chart from Mobile Infirmary on the 22nd. And the nursing notes, 4150, heart rate thirty per EKG.

Q All right. Well, is there any entry in the chart anywhere which states act his hart rate was ever b e l ~ thirty?

A No.

Q And if his heart rate was thirty, that's not a cardiac arrest, is it?

A Not at thirty. But, you know, we'd have to assume

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that -- this child arched his back, became cyanotic and was unresponsive, then. I would assume that even if it were thirty, the heart was not perfusing enough blood to the brain. And we know that by the subsequent brain damage.

Q Well, now, a respiratory arrest can produce the same thing, can't it?

A No.

Q It can't?

A Respiratory arrest can produce bradycardia, but it doesn't produce decreased cardiac output unless the heart is riot functioning well.

Q Well, it producer; decreased oxygen to the brain, doesn't it?

A Yeah. But this --

Q Whether the blood's flowing to the brain or not?

Its. HOLMES: Let him finish his answer.

A No. I nean, decreased oxygen in the blood.

In. CUI INGHAM:

Q All right.

A But if you don't have blood flow *to* the brain then you have -- we've already talked about you're going to have considerably more damage.

Q All right. Well, if you have blood flow to the

brain but you *have* a respiratory arrest and no oxygen going into the blood you can suffer brain damage, can't you?

A In what situation?

Q In this situation right here.

A No. Not in this period of time.

Q In what period of time?

A Of three minutes.

Q Well, I thought you told me earlier that varies and it may be one minute with one child and six minutes with another?

A I beg your pardon. I told you that with hypoxia and ischemia. Okay?

Q Well, doesn't hypoxia --

A You asked me about hypoxia.

Q All right. Doesn't hypoxia occur when you don't have any oxygen flowing from the lungs into the blood?

A It can. It's a variation. I mean, hypoxia *is* just lack *of* decreased oxygen.

Q Right.

A But people, and especially babies, sustain that for a longer period of time if ischemia is not superimposed. When you have a heart rate of thirty or probably below thirty, then the heart is not pumping blood. So you have

both of them. We know by the degree of brain damage that Andrew Hinkle suffered that he had ischemia.

Q Well, now, if you assume that he had a respiratory arrest but that his heart rate never got below thirty, if that respiratory arrest is sustained for a long enough period of time he can still have the same kind of brain damage he had here, can't ha?

A What's the length of time?

Q Well, whatever length of time?

A No. That doesn't -- that's not the way it works. You have to tell me what length of time you're talking about.

Q No, I'm asking you this question. Is it --

A Well, you made a statement. You didn't ask a question.

Q Is it or is it not true that if he had a respiratory arrest, even though his heart rate never got &la.! thirty, that if sustained for a sufficient period of time, that respiratory arrest can produce brain -- age of the type he had?

A I don't -- well, you'll have to tell me what -- first of all, a sustained period of time, what length of time you're talking about. And then second of all, what is the effective cardiac output at a heart rate of thirty.

Q All right. You tell me how long a period it would take in respiratory arrest with a heart rete of thirty in an infant like this for him to suffer brain danage.

A It may take just several ninutcs.

Q Okay.

A Because the heart, at a heart rate of thirty, is probably not cffectively pumping.

Q Okay. All right. And how can you then, in this case, rule out the infant having a respiratory arrest?

A The infant did have a respiratory arrest. Cut it was a result of the cardiac arrest.

Q All right. Tell us how you know that.

A Well, because he did not have any respiratory distress first. He suddenly arches his back, he turns cyanotic. And for an event *to* occur suddenly like that, the heart hen to stop.

Q For an event to occur suddenly like that, you're taking about the cyanosis?

A I'm talking about arching of the back and —

Q And the arching of the back?

A — becoming decerebrate and becoming cyanotic.

Q Now, where in this record does it say that: he became decerebrate?

A That's the description of arching of the back. That's a dcccrcbrnte posture.

Q Well, where in the record does it say that --

A It doesn't have to say in the --

Q -- he became decerebrate?

A -- record. That's a description that everybody recognizes, decerebrate posturing.

Q Well, where does it say that there was decerebrate posturing?

A It doesn't say. But, I mean, the facts stand for themselves.

Q Is it your tcstinony that every infant who arches its back is exhibiting decerebrate posturing?

A In this particular situation when they arc cyanotic and their heart rate goes down to thirty and they have to be renuscitatea, yes.

Q Well, is it unheard of Lor an infant who's in respiratoary arrest to arch his back?

A After a prolonged period of tine.

Q Well, uno said anything about a prolonged pcrioci of time?

A Well, you have to let ne qualify the answer, Mr. Cunningha. You know, I can't do it and tell you Facts that

are not right.

Q Well, the fact is, number one, that you don't know whether the infant ever arrested, period?

A We have every indication that that occurred.

Q All right. And every indication is a note in the record that shows his heart rate got down to thirty?

A No. Every indication is the clinical course, the subsequent brain damage and the problens that the child had. You don't get this type of anoxic or hypoxic ischemic encephalopathy without having lack of blood flow to the brain. And you don't get a lack of blood flow to the brain without the heart effectively pumping it out.

Q Well, now, you can have this kind of anoxic encephalopathy by oxygen not going into the blood whether the blood is going to the brain or not, can't you?

A Only for an extended, prolonged period of time.

Q All right. And you tell me how long it takes.

A It would have to take at least in excess of twenty to thirty minutes in a child this age.

Q Well, now, you just said three minutes about five minutes ago.

A That was with ischemia.

MR. HOLMES: You're mixing apples and orange.

MR. CUNNINGHAM:

Q I'm not talking about ischemia.

A Well, that's what I'm talking about. I'm not talking about hypoxia alone. You said in this child, And this child had ischenia.

Q Let's talk about anoxic, Okay? Anoxia. With no ischemia. Ail right, You've got a respiratory arrest.

A Uh-huh.

Q The heart's still pumping. How, how long would it take in that circumstance for the child to be brain damaged?

A This is e totally unrelated case?

Q Hypothetical.

A Okay. Well, all I can do is tell you again, as I told you before three hours ago, about the animal data. If you take newborn rats who breathe nitrogen, it takes anywhere fron twenty to forty-five minutes before they suffer significant hypoxic &sage. Okay?

I€ you cut their head off, it may take ten minutes, okay, before you can'see the changes pathologically.

Q Okay. Well let's *don't* talk about rats. Let's talk about infants.

A There is no data. There's no way for anybody to tell you that.

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Q So you don't know?

A No, I didn't say that. I said we do know, by extrapolating from physiologic mechanisms and clinical conditions in which we have had the opportunity to monitor children with hypoxia and with ischemia that this is a -- you know, it's a *very* good correlation. We know that as compared to adults.

Q Well, based on all that that you have just described, give me the range in a child this age?

A Por what?

Q To produce the brain danage.

A Well, you've got to rephrase the question. We have a number of things going here. What do you want to know

Q Well, I thought you just gave ne all the conditions that would deternine whether there was brain damage. And I'm trying to find the length of time it would take in an anoxic state to produce the brain damage --

A To produce the --

Q -- in a baby, not a rat.

A I understand what you're saying, *in* a baby. But whet baby? This baby?

Q This baby?

A Due to just *hypo-ria* for a prolongcd period of time?

Q No. Anoxia. Not hypoxia.

A You know, there is no *way* to absolutely give you absolute figures, But I'd have to say it would be at least approximately twenty minutes.

Q Twenty ninutcs? All right.

Now, how long docs it take a respiratory arrest in an infant like this bcforc it would procucc a cardiac arrest?

A I'm *sorry*, I just lost track.

Q All right. Assume *you* htve an infant just like this who suffers a respiratory arrest for whatever reason. Eow long *would* it take before that respiratory arrest resulted in a cardiac arrest?

A Well, it depends on how much -- how long a tine it takes for the myocardium to bccone ischenic and then have a cardiac arrhythnia and ctop flowing.

Q Well, what's the range on that?

A I don't know the answer to that.

Q Don't have *any* idea?

A Lo. But you have to -- well, you know, let ne back up just a little bit, in terns 02 not having an idea about that.

The — you know, the critical things in cardiopulmonary arrests thzt cause problems is not only lack of oxygen and blood flow to the brain, which certainly occurs, but there's lack of oxygen and blow flow to the myocardium. Ana when the myocardium *is* not able *to* be stimulated in a resuscitation — whicn is some of the reasons you resuscitations are not successful. The myocardium just can't respond. It's been ischemic too long.

And that's why you have the morbidity that you do. And that that's why it varies. There's no way to predict what that is to each individual infant or adult.

Q Well, without knowing how long it would take for a respiratory arrest to cause heart failure, how can you say in this case that the child didn't suffer a respiratory arrest first?

A You asked me hypothetically first, okay, what anoxia was.

Q Yeah. Hell, I'm talking ~ S o this case now.

A Well, because when you have a respiratory arrest you don't initially arch your back, become cyanotic and drop down to a heart rate of thirty within three minutes. That's jus: not typical.

Q If you have a respiratory arrest, you don't becom

cyanotic?

A You've got to do it for a while.

Q Got to do what for a while?

A You've got to not breathe for a while.

Q Okay. How long do you have to not breathe with a respiratory arrest before you become cyanotic?

A Several minutes.

Q All right. Well, then, how in the world can you conclude that this child did not suffer a respiratory arrest which caused the cyanosis --

A -- h child --

Q -- which caused the bradycardia?

A Okay. The child did have a respiratory arrest;. My feeling, based on the clinical presentation and based on the facts, is that the cardiac arrest came first ana the pulmonary arrest came second.

Q All right. But what I'm trying to get at is --

A It us have cone together.

Q -- the basis for your feeling.

A Well, I'm telling you the basis.

Q All right.

A By the clinical symptoms the child manifested, an< they usually do cone together. And this child did have a

cardiopulmonary arrest, nor two big different events. They are in proximate cause.

Q Well, didn't you tell me earlier, though, that the cardiac arrest occurred before the respiratory arrest?

A That's my feeling. But, you know, they're so close together it makes little difference clinically. Because both of them happen, you know, in a very short period of time. And usually when your heart stops, you stop breathing. Now, if you stop breathing, it takes a long time for your heart to stop.

Q Uh-huh. And is *that* the twenty minute figure you gave me earlier?

A That's for hypoxia. We're not talking about --

Q Okay. If you stop breathing, then, how long does it take your heart *to stop?*

A Depends on your age, depends on your underlying condition, depends on a whole host of factors.

Q How &ut in a child like that?

A I'd have to say it takes a long period of time.

Q Well, what's a long period of time?

A Twenty minutes, thirty minutes.

Q Twenty minutes?

A That's a range. Pi1 I can do is, again, go back

:o animal data and extrapolate it for you.

Q Well, what is the range on respiratory arrest before you would see cyanosis?

A That's several minutes.

Q Okay. Now, are there articles and are there textbooks which discuss arching of the back as being a sign or symptom of cardiac arrest in an infant?

A I didn't *say* that was a sign of cardiac arrest, I said that's a sign of decerebrate posturing which reflects lack of blood flow and oxygen going *to* the brain.

Q Well, before you get decerebrate posturing do you have to hzve brain damage?

A No.

Q So you can have a perfectly healthy brcin but exhibit decerebrate posturing?

A No. Your brain is suffering some problem which causes the decerebrate posturing. When you vcrc talking about brain damage, I thought you wefe referring to a permanent brain damage.

Q Well, how long does your brain have *to* suffer some problem before you would be expected to exhibit decerebrate posturing?

A Until it causes tissue changes.

Q All right. Well, how long would you expect in an infant like *Andy* Hinkle for it to take before he exhibited decerebrate posturing?

A Now -- okay. Hell, let's back up, okay? You're talking about just as a symptom of decerebrate posturing?

Q You told me that the decerebrate posturing occurred because of his cardiac condition; *is* that right?

A I'm telling you that the decerebrate posturing occurred because he did not get oxygen and blood flow to his brain as a result of a cardiac and pulmonary arrest.

Q That's what I thought you said,

A That's what I said.

Q Now, how long does it take between the time of a cardiopulmonary arrest before you would expect to see decerebrate posturing in an infant this age?

A It depends on how much ischemia occurs." If that's -- if there's not nuch blood flow going to the brain, it takes a relatively short period of time. It may take thirty seconds, it may take two minutes, it may take three minutes. Certainly not a great deal of tine.

Q Well --

MR. HOLMES: I think that's consistent with what he said, Bobbo. You've been over this about ten

tines.

MR. CUNNINGHAM: Yeah. I don't think it's consistent at all.

A Well, how can I clear it up for you?

Q But at any rate, it's your opinion that what happened is that he suffered a cardiopulmonary arrest, that that resulted in the decerebrate posturing?

A That's correct.

Q Is that correct?

A Yes.

Q All right. So at the time he exhibited the decerebrate posturing, what would have been his level of respiration?

A He may have had some respirations. He may have had none.

Q All right. What would have been his heart rate?

A I would have to think his heart rate would have been very low.

Q And you say that that decerebrate posturing can result from that within a matter of thirty seconds?

A Yes.

Q Okay. And I guess that's documented in the medical literature, too?

A In my literature.

Q Which of your literature?

A The neurological literature.

Q Well, tell me some leading neurological texts,'

A Well, we use mostly the articles in, you know,.;., original research. And I nean, they are in multiple journals. The Journal of Clinical Research, Brain, Annals of Neurology, Neurology, so on. There's a whole host of sources.

Q So I could find this thirty second figure in these journals somewhere?

A I guess,

MR. HOLIES: We don't know whether you can find it or not.

MR. CUNNINGHAM:

Q Well, is it in there?

MR. HOLIES: You nights not be as sharp as he is.

MR. CUNNINGHAM:

Q Is it in there, the thirty second figure?

A You'll have to look. I mean, I don't know. I nean, as far as I'm concerned, that's the figures that we use.

And that's the figures that neurologists generally use?

A Again, qualifying it with all of the other things. You don't have one single figure for one single thing. Okay?

Q Well, I'm talking about the time between cardiopulmonary arrest and the decerebrate posturing, Are you telling me --

A I'm saying in my opinion, based on my review in assimilation of the literature and the data, that it can occur in thirty seconds.

Q Okay. Well, you say can occur in thirty seconds. Now, I'm trying -- is that the typical range you see?

A Well, you have to go with the lowest range to the highest range.

Q Well, tell me the highest range.

A You know, I don't know. Again, I don't know what the oxygen tension is. There's a whole --

Q What's the range, though?

A I don't know that. Up to twenty minutes, I suppose.

Q Okay.

Q I understand your opinion is that this child did not suffer laryngospasm; is that correct?

A In my opinion, tiic clinical condition of this infant, the presentation, is just inconsistent with laryngospasm.

When you say the presentation, at what pint in tine arc you talking about?

A The whole thing.

Q At the tine of the event?

A All the way from the tinc the child got to the hospital to the event.

Q Okay.

A I see no indication in the chart of what I understand and what I have seen is laryngospasm.

Q All right. Well, now, as I understand the record, Dr. Erwin went back to the room with the child with the nurses; is that correct? Is that the way you understand it?

A As I understand it, he vas standing in the door then went back into the room, yes.

Q Okay. And ha was there at or bout the 'tinc of the incident that we're talking about; is thet correct?

A Yes.

Q Who do you think would be in the best position to determine whether or not the child suffered laryngospasm, you or Dr. Erwin?

A Well, it depends on whether he had all the information about the observations right before the event. But I'm certain Dr. Erwin is going to be the person to assess the child immediately and try to come to some decision as to what occurred.

Now, whether that's the right decision is documented by the facts and then the subsequent events.

Q Well, don't you guess that he had occasion to look at the child's airway?

A Well; at the time that he was with the child, the child wasn't breathing and had a low heart rate. I mean, so that was after the fact.

Q Well, he would be concerned about the airway, wouldn't he?

A Well, I think Dr. Baston was most concerned. That's why he put a tube in.

Q All right. Well, who do you think would be in better position to determine whether or not the child suffered laryngospasm between you and Dr. Baston, the Pan putting the tube in the child?

A Well, he would be, if he looked at the vocal cord,

Q All right. What does Dr. Baston say in his

deposition about laryngospasm?

A I've not seen a deposition from Dr. Baston.

Q So you don't know what the doctor who was on the scene putting a tube down the child's throat has to say about whether he suffered laryngospasn?

A I do know what's in the chart, Mr. Cunningham, and I ao know what the descriptions are. And I know what -- the descriptions of the parents and I know what the descriptions of the clinical sequence arc.

And in my opinion end estimation, having -- putting all of that together, it is not consistent with laryngospasm. Now, if they thought that was the case and they thought that was -- they ore entitled to that. You have a differentia diagnosis, You consider a whole host of possibilities. That doesn't mean it's right.

Q Well, I'm going to go back to my question. So you don't know what the doctor haa to say who was there and put the tube down the child's throat at the the about whether or not there was laryngospasm; is that correct or not?

A I do not know what Dr. Baston felt --

Q All right. Okay.

A -- about the vocal cords, no.

Q Do you know whet Dr. Erwin said about whether or

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not the child suffered laryngospasm?

A No.

Q Well, you read Dr. Bertucci's deposition, didn't you?

A Yes.

Q What did he say that Dr. Erwin told him?

A That was at the time of the event. Okay?

Q And you here six years later are in a much better position to tell us than the fellow who was there at the time?

A Let me see if I can explain that to you again, Mr. Cunningham. Events occcr in medicine in-which we make assumptions at the time of an acute episode;

Now, sometimes those assumptions are not correct because we don't have all the data at that time. We try to do the best we can. And sometimes that's just not correct.

When you have all of the data together and you assimilate it all, then you htvc to come up with what is the most probable sequence of events.

Q How do you diagnose laryngospasm?

A It's a clinical condition, and then looking at the vocal cords and see if they are clamped down. Now, this child was exchanging air. He didn't make any noise. He had

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no gargling sound. He simply arched his back and had a cardiac arrest.

Q Did Dr. Baston look at the vocal cards?

A He had to look at them to put the tube down.

All tight. When he looked at then, did he see that the child was in laryngospasm?

A If he *got* the tube down, then hc wasn't in laryngospasm, because they're closed ana you can't get it down unless you push it through it.

Q Did he push it through it?

A You know, I don't think so, because he certainly didn't have any problems with it afterwards.

Q So you don't know whether or not Dr. Baston looked down the child's throat and saw laryngospasm; correct?

A He saw the vocal cords. Now, whether hc saw then closed, I assume he didn't, because hc couldn't get the tube in.

Q All right. You assume he didn't?

A Well, hc couldn't. If the vocal cords are clamped down, you can't put a tube in.

Q So it's your testimony that if you have an infant in laryngospasm *you* cannot: put a tube in?

h Unless you damage the vocal. cords.

Q Have you intubated any infants lately?
A Yes.
Q Do that frguently?
A No, because I -- we don't like to do that unless we have to.
Q Okay. Well, so as I understand it, if Dr. Baston says the child was in laryngospasm, you say the child was not; is that correct?
A No, I did not say that. I said as the data appears to me, with the clinical sequence of the events, it does not appear to me that hc was in laryngospasm.
Q Well, if Dr. Baston says that he was in laryngospasm then you'd be wrong, wouldn't you?
MR. HOLMES: I object to that.
A Did Dr. Baston say that? If he does, show it to me and let me look at it.
MR. CUNNINGHAM:
Q Well, your lawyer's the one that's supposed to give you the depositions, not me.
A Well, I don't have his deposition.
MR. HOLMES: Well, I'm not his lawyer in the first place. But I think you ought to ask him about the deposition and let hin see it.

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MR. CUNNINGHAM:

Q Do you recall reading this statement made by Dr. Bertucci on page twenty-five line four, quote, "Dr. Erwin called me and said thet the baby had gone into laryngeal spasm and caused subsequent cardiac arrest."?

A Can I look ut that?

Q Sure.

MR. DUFFY: What page arc you on?

MR. CUNNINGHAM: Twenty-five.

A I recall that. And again, it's just a different interpretation of the data. This was at the tine of the event. He didn't have all the data, Mr. 'Cunningha. I'm just -- you know, that's all I can tell you.

Q Well, he had a lot nore --

A You have to make it on the basis of the symptoms and the clinical condition. Now, Dr. Erwin didn't look at the vocal cords.

Q Well, don't you think Dr. Erwin knows anything about symptoms and clinical conditions of hi8 own patient?

A I don't know bow much he knows about laryngospasm. Unfortunately, we can't ask him.

Q Well, he knew enough to state to Dr. Bertucci that that's what he thought it was?

A You had an acute, catastrophic event which was unexpected in an infant. If I would have seen the infant at that time I might hcve considered laryngospasm also. It just didn't occur as the facts all cone out.

Q In your opinion, was this infant properly positioned immediately before the arrest?

A Properly positioned for what?

Q For anything.

A *Yes.* I have no problen with the positioning.

Q okay. Are you familiar with any literature that discusses the proper positioning of infants with pyloric stenosis with a history of vomiting?

A Specifically, no.

Q Ail rignt, *Are* you familiar with any literature whicn discusses the subject of placing the infant on its side or its stomach when it has pyloric stenosis end a history of vomiting?

A That's if the -- yeah, I mean, if it's continued protracted vomiting, *yes.* But this child hadn't vomited since he was at the hospital. I see no reason, after the operation -- he has a saphenous vein cutdown, *to* be propped up on its back and being obserbed.

Q When you say propped up on its back, what do you

mean?

A Had the towel rolled underneath the back, or the sheet.

Q Where under the back?

A The shoulders and the head,

Q Shoulders and the head? Where can you get that?

A In the nurse's deposition.

Q Which one?

A The two that brought him back.

Q Okay. And in your judgment, what would be entirely proper?

A I don't see anything improper about it.

Q Are you familiar with any literature which supports the propsition that that is proper?

A I think that there's literature supporting a nunber of positions, okay? you have to take your individual case at that individual time with the circumstances and then apply it. General statements don't: apply to individual circumstances.

Q Is that what you tell nurses that work for you, that I can't tell you generally what to do, it's going to differ for every patient?

A Yes. I tell them to use their own judgment and

use their own clinical judgment, if they have any questions to call me or ask me.

Q Okay. So you wouldn't expect the nurses at the Mobile Infirmary to have been given any general instructions about the care or an infant with pyloric stenosis and a history of vomiting about the positioning?

A I don't know what the nurses were given in terms of the general instructions.

Q Well, do you know what the requirements of the Mobile Infirmary were insofar as positioning with an infant who had pyloric stenosis and a history of vomiting?

A I don't know whether there is a policy manual that exists for that. If there does, I'm not aware of it.

Q So you don't know whether or not, by this infant being on its back, whether it violated any policy of the Mobile Infirmary?

MR. DUFFY: Wait just a minute. There's no evidence that the infant was on its back except from the parents.

MR. CUNNINGHAM: Well, that's what he said.

MR. DUFFY: He didn't say that.

MR. CUNNINGHAM: Yes, he did most certainly did.

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MR. DUFFY: He did not, He said propped, up on his side,

MR. CUNNINGHAM: He said on his back. Now you're trying to change it.

Q Didn't you say on its back?

A The infant was propped up. Listen, that has not-ing to do with the event, Mr. Cunningha.

Q That's fine. But didn't you say --

A Yes, I --

Q -- that he was on his back?

A Yes, I did say that.

Q That's what I thougnt. Okay.

Now, do you know whether or not that violates the policy or the Mobile Infirnary insofar as its pediatric nursing?

A No. I have not seen any policy that states thct you must put infants in a certain position.

Q So you -- are you saying *yocl* don't know or you do know?

A If it's exists, I'll be glad to look at it and give you -- I don't know that such a policy exists.

Q Okay. Now, is it standard procedure to empty the belly after an upper GI series on an infant like this?

I think we've been through that before.

We touched on it, but we haven't been through it.

MR. DUFFY: We've been through everything in the kitchen.

MR. CUNNINGHAM: We're going to go through it this time.

Again, that's a decision for the radiologist. As far as I can tell from the radiologic literature, one can go do it both ways. And that has to be their decision. And obviously people do it both ways and have no problems either way.

Q Okay. So you've looked at the radiological literature on that subject?

A Briefly, yes.

Q When did you do that?

A Within the past two years.

Q All right. Why did you do that?

A Well, because I was asked to look at this case.

Q Okay. What literature did you look at?

A The radiologic journals and the radiologic textbooks.

Q And you found articles that said you should do it and articles that said you don't need to do it?

A And I've also talked witht he chairman of radiology at the University of South Alabama.

Q Who's that?

A Dr. Robinson.

Q When did you talk with hin?

A Oh, a year ago.

Q What did you and he discuss?

A I just asked him about their -- what they do for their children.

Q And what did he say?

A Whether there is any -- hc just said that it's done by different radiologists different ways.

Q What do you understand to be the reason for emptying the stomach?

A Well, I Dean, obviously if the stomach is overdistended and the pylorus is completely obstructed, then; you know, you may have vomitus.

Q All right. What's wrong with that? I mean, why do you want to avoid that?

A Well, sometimes, you know, when you try to get it out you can also stimulate the pharynx, you can also cause a vasovagal response by just doing that. So if it's not a problem, you don't bother with it.

Q What other reasons did the literature give for evacuating the barium?

A Just the *sane* reason I did, vomiting and aspiration.

Q Aspiration?

A Uh-huh.

Q Why do you want to avoid that?

A Well, I mean, you can get aspiration pneumonia.

Q What else can happen to you when you aspirate other then get pneumonia?

A Well, I mean, I guess other conplications can arise, you know, and you could have further morbidity.

Q All right. Now, the literature that says you don't need to do it, what were the reasons given for not doing it?

A For the sane thing, is that you don't necessarily do procedures that are unnecessary, because it causes more stimulation or an infant that's already ill.

Q All right. Now, where did you go to medical school?

A Emory University.

Q Where did you do your immediate postgraduate work?

A What do you nean? Do you mean internship?

Where dfd you do your residency and your intcrnship?

A I did my internship at the University of North Carolina at Chapel Bill. I then did -- that's all right. You can ark me what you want.

Q All right. What cane next?

A I did an infectious disease and virology fellowship at the National Institutes of Health.

Q All right. What next?

A Then I did a pediatric residency at Washington University, Barnes Hospital.

Q All right. Did they evacuate the belly in infant! at Barnes?

A I don't know. There were at least sixty radiologists on the staff, so I don't know what each one of them uid.

Q Well, do you know what the department policy rras there?

A NO.

Q Have you mtae any inquiry?

A No.

Q All right. How about at UNC or NIH, did you --

A We didn't do that at NIH.

Q Where did you go after Barnes?
A I stayed there at St. Louis Children's Hospital, did a pediatric neurology fellowship and an adult neurology fellowship.
Q Did they evacuate the stomach there in upper GI series?
A They pay have. I wasn't doing that at that time.
Q Well, do you know whether they did or not?
A NO.
Q Have you ever been at an institution where you are aware of it being standard procedure to evacuate the belly?
A I may have. I don't know the standard policies concerning the radiology department.
Q Where did you go after you left St. Louis?
A I went to the University of Arkansas.
Q What did you do there?
A I was in charge of child neurology and taught on the full time faculty.
Q Medical school?
A Yes.
Q How long were you there?
A Two years.
Q Do you know what they did there insofar as

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evacuating the belly of barium?

A No, I don't know the policy.

Q What was your reason for leaving there?

A I wanted to cone down to the Gulf Coast.

Q Is that the only reason?

A Yes. I wanted to go into private practice and do academic medicine at the same tine.

Q What was your reason for leaving St. Louis Children's Hospital?

A It was tine.

Q Excuse me?

A it was tine.

Q It wao tiue?

A Right.

Q What is your relationship with the Mobile Infirmary?

A I'm on their media staff.

Q And how long have you been on the nedical staff?

A Since 19 -- I guess I have been on the courtesy staff since 1978, and than the full time staff two years after that.

Q Do you hold any positions?

A What do you ncan?

Q Are you chairman of any departments or do you hold any titles?

A No.

Q Other than the fact that you are just a doctor that is on the staff?

A No. I'm -- everybody that are full-time members of the staff serve on various committees.

Q What committees are you on?

A Continuing medical education connittee and the rehabilitation connittee.

Q What it the rehabilitation committee?

A Rotary Rehab.

Q What is your position on the continuing medical education committee?

A I'm a member.

Q Have you ever held any other positions at the Mobile Infirmary?

A Just on various committees. But, you know, I really can't tell you whzt thosc are over the years.

Q All right. Was this -- was Andy Hinkle's case ever reviewed by any committee at the Mobile Infirmary?

A They a--well have. I'm not aware of it if it was, but that doesn't mean it wasn't.

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Q You weren't involved in it if it was?
A No.
Q Have you ever been a defendant in a medical malpractice case?
A No.
Q Have you ever received an inquiry that led you to believe you might be a defendant?
A We receive those inquiries all the time.
Q All right. Have you ever expressed an opinion that you thought you were about to be a defendant in a medical malpractice case?
A I think that we -- you know, everyone that has records subpoenaed, you know, always has to consider that possibility.
Q Well, does that mean that you have had records subpoenaed and have considered that possibility?
A Sure. I have a nmber from you: office.
Q Okay. Did you ever express an opinion that the Cunningham fim was getting ready to sue you?
A No. I have had had —

MR. DUFFY: What difference does it make?

MR. CUNNINGHAM: Well, I don't know. Maybe it makes no difference. But I don't know unless I ask.

MR. DUFFY: I don't see any relevancy at all. I think it's a bunch of wasted tine.

I certainly hope not. But I've not had any direct correspondence.

MR. CUNNINGHAM:

So you've never told anybody that you understood you were about to get sued --

No.

-- at anytime in the past?

Well, I nean, I'm sure we all discuss, you know, records that arc subpoenaed.

MR. CUNNINGHAM: Okay. Is anybody else going to ask any questions? If you are, you can go ahead and I'll be looking over my stuff while you do it.

MR. HOLMES: Are you going to ask any more?

MR. CUNNINGHAM: I'm sure I will, after you gct through.

MR. HOLIES: I don't know that I heve any. Want to take a short break?

MR. CUNNINGHAM: Yeah.

(Short areak)

MR. CUNNINGHAM:

Dr. Chalhub, what professional organizations are

you a member of?

A There are a number of them. The American Academy of Pediatrics, the American Academy of Neurology, the Child Neurology Society, the American Medical Association, the Southern Society for Neurological Research, the Southern Society for Child Neurology, the American EEG Association, the Southern Society of Electroencephalographers, the Alabama Medical Association, the Alabama Pediatric Association. Is that --

Q All right. Bar long have you been a member of the American Academy or' Peciatrics?

A Since 1978.

Q All right, Does that: academy promulgate recommended standards of practice?

A No. I think that thcy have their -- they have recommendations for cartain situations and certain entities, but that does not set a standard or' care,

Q Okay. They do hcve recommended practices, though; is that correct?

A They have committees who review isnues'and give recommendations from that committee.

Q What recommendations, if any, has the American Academy of Pediatrics made on the issue of positioning of an

infant with pyloric stcnonis?

A I don't know those, if they exist.

Q All right. What position, if any, hac the American Academy of Pediatrics taken with respect to the evacuation of the belly of an infant with pyloric stenosis?

A I don't know that.

Q What position, if any, has the American Academy of Pediatrics taken with respect to the training required of pediatric surgical and floor nurses?.

A If any, I don't know them.

Q Okay. Well, in your medical judgment, should pediatric surgical and floor nurses have special training in their field?

A Well, I man, I thin~;it's commensurate with good nursing care. I mean, if they go to ncrsing school and they have Instruction and continued nedical education. You know in terns of pediatric intensive care, that requires a different level.

Q All right. What level does that require?

A I ncan, it would require, you know, training fn pediatric intensive care problems and experience in a pediatric intensive care unit.

Q Okay. How about nurses who are assigned to the

pediatric floor, should they have any special training above and beyond that of a registered nurse who is not on a pediatric floor?

A I think they should have experience dealing with children. But again, you know, I don't know the requirements. And if you want to know those, you can ask the director of nursing and so forth.

Q So you don't know what requirements, if any, there are at the Mobile Infirmary along those lines?

A I don't know what the requirements are to work on the pediatric floor, no.

Q Would you expect tncrc to be some afferent requirements for working on that floor?

MR. DUFFY: He doesn't know. I don't know what he'd expect.

A I mean, I can't speak for the Mobile Infirmary.

MR. CUNNINGHAM:

Q well, would *you* as a physician expect that there would be some requirements for a nurse to work on the pediatric floor?

A I would expect that they would have sone pediatric nursing. Now, whether their requirement is ncrsing school or what other experience, that's up to the Infirmary to deciae.

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Q And you don't know what that is?

A No.

MR. CUNNINGHAM: Okay. Thank you.

MR. HOLMES: I don't have any. That's all.

FURTHER, DEPONENT SAYETH NOT.

ELIAS G. CHALHUB

DEPOSITION OF ELIAS CHALUB, M.D.
[CHARLES WESLEY HINKLE]

TAKEN ON MARCH 1, 1985
by ROBERT T. CUNNINGHAM, JR., ESQ.

Pg / Ln

73/18 Defines Anoxic Enceph.

ANOXIC ENCEPHALOPATHY:

Lack of oxygen going to brain, and often lack of blood flow, resulting is a diffuse involvement of the central nervous system

74/19

Young children can sustain periods of hypoxia and ischemia for an extended period of time without necessarily having permanent brain damage.

81/11

Anoxia is different

Anoxia - lack of oxygen
Ischemia - lack of blood flow

You can be hypoxic or anoxic without being ischemic

110/6

"How do you treat somebody who's sick? You have to find out what's matter with them."

161/21-23

If cardiac arrest was expected, the child would have been put in ICU to be observed. . . .

[No more lab work done on Ashley]

176/19 Why children who get viruses get encephalitis versus children who don't get encephalitis with the same virus . . . .There's certain host response that's unpredictable,

178/6 the Aritish Literature

208/5-7 Arching back can't he produced by respiratory arrest

209/17 **Hypoxia** is just decreased oxygen

211/10 Because he had respiratory arrest as the result of cardiac: arrest / no distress first

211/21 Becoming decerebrate and cyanotic

217/19 Because when you have a respiratory arrest you don't initially arch your back, become cyanotic end drop down to a heart rate of 30 within 3 minutes, That's just not typical

220/9 Arching back is a sign of decerebrate posturing which reflects lack of blood flow and oxygen to the brain!!!!!

CHALHUB DEPOSITION (HINHLE) **3-1-85**

(He was the treating physician testifying as an expert for the Defendants).

9/22. Child had a hypoxic ischemic encepha.

12/18. Caused by cardiac arrest.

14/16. Cardiac arrest probably caused by a metabolic abnormality

52/4. Testified once that a doctor failed in proper resuscitation

57/9. Consults and reviews records for St. Paul Ins.

57/20. Contacted by their claims reps.

78/16. When the blood flow does not go to the brain for even a period of one, two, or three minutes, then the brain suffers irrepairable damage.

81/8. If its anoxia and ischemia, then its a much shorter period of time.