IN THE CIRCUIT COURT OF THE 15TH

JUDICIAL CIRCUIT IN AND FOR

PALM BEACH COUNTY, FLORIDA

General Jurisdiction division

MARVINE HOLLOWAY **and IRENE** HOLLOWAY, co-representatives of the Estate of LORENE **DENISE** HOLLOWAY,

Pliantiff,

vs. Case No. 85-7426 CA (L) J

EARL J. ROBERTS, M.D., and **GOOD** SAMARITAN HOSFITAL, INC., a Florida Corpor'ation,

Defendants.

Washington, D.C.

Friday, February 3, 1989

Deposition of RAOUL L. WIENTZEN, M.D., a witness, called for examination by counsel for the plaintiff, pursuant to notice, at Georgetwon University Hospital, 3800 Reservoir Road, Washington, D.C., before Marcia J. Tyler, a notary public, beginning at 12:00 p.m., when were present on behalf of the respecitve parties:

FOR THE PLAINTIFF;

CALVIN F. DAVID, Esq., Thornton, David & Murray, P.A., 2950 S.W. 27th Avenue, Suite 100, Miami, Florida 33133.

FOR THE DEFENDANT ROBERTS;

ROY R. WATSON, Esq., 1555 Palm Reach Lakes Boulevard, NCNB Building, Suite 1600, West Palm Beach, Florida 33402-4308.

FOR THE DEFENDANT GOOD SAMARITAN HOSPITAL:

LARRY D. HALL, Esq., 1417 East Concord Street, Suite 101, Orlando, Florida 23203.

FOR THE DEFENDANT: GETZ:

JEFFREY ROTHWELL, Esq., George, Hartiz &Lundeen, P.A., 524 S. Andrews Avenue, 533 Justice Building, Fort Lauderdale, Florida 33301.

I N D E X

EXHIBITS
(None)

P R O C E E D I N G S

WHEREUPON,

RAOUL L. WIENTZEN, M.D.,

was called as a witness by counsel for the plaintiffs, and after having been first duly sworn, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR THE PLAINTIFFS

BY MR. DAVID:

Q Would you, for the record, state your full name, please?

A Raoul L. Wientzen, Jr., M.D.

Q Okay. I was contemplating how to pronounce your name, Is it "Wientzen"?

A Wientzen.

Q With a heavy "E"?

A That's correct.

Q Dr. Wientzen, I have your CV that was given to me by one of the otner attorneys. I assume it is pretty much up to date?

A Yeah, I think so. Yep. I think this is pretty much up to date. There might be one here on vaccination strategy, a chapter in a book -- No. It is on here, "Adverse

Reactions to Vaccines."

Q I have taken the liberty of looking at some of the things that you have written or edited that seem to deal with in any way, shape or form meningitis and I didn't find any thing that dealt specifically with meningitis in a child of two and a half years old.

A That's true.

Q So, am I correct in understanding that you have no actually written anything dealing with meningitis in a child of the two and a half years old range?

A That's true. My writing on meningitis pertains to newborns and some tangential issues about prophylaxis of meningitis cases.

Q All right. I also understand that your prime interest or major areas of interest are newborn bacterial disease and childhook urinary tract infections?

A Well, in 1977 or '75, when I wrote that article that you just quoted from, they were my main research areas, Since then it's evolved to different things,

Q Is this a 1970 --

A I believe that's '77.

Q '77, okay, I assume from talking with Mr. Hall that you have reviewed the various *charts,* depositions, the

various materials that many of the people that have already testified in this case have reviewed?

A Yes, sir.

Q Putting all of that material aside for the moment, would you generally -- or do you generally agree that it is appropriate for a physician who strongly suspects meningitis in an acutely ill child of two and a half years old to treat with antibiotics immediately if there is going to be a delay in doing the tap, for what ever reason -- for any reason? Do you generally agree with that statement?

A I generally agree with that statement, and we may have some disagreement with respect to what we mean by a delay, But I generally agree with that statement.

Q If there is going to be a delay of one hour or mor , would that be a time period that you would generally agree that -- with the physician strongly suspecting meningitis in an acutely ill child of two and a half years old -- that it is prudent and appropriate to go ahead and administer antibiotics prior to doing the tap with that period of delay in mind?

A With the way tnat you asked the question, I can answer, yes, it would be prudent and certainly not outside the standard of care to administer empiric antibiotics.

However, I look at the delay of one hour as being not necessarily a delay which would require me to administer antibiotics.

Q Take it out to two hours. You would agree, certai ly, then it would be prudent and appropriate to go ahead and administer the antibiotics under the circumstances that I have set up?

A I think in '88, to answer your question, the average child who comes in on an emergency undergoes a two hour delay from entry to the emergency room to the administration of the first dose of antibiotics, Any delay I would look to would be something in excess of that two hours, So, I didn't agree with the statement as posed, that a two hour delay as from the time of admission to ER to the time of the administration necessitates immediate treatment. I think we can talk about delay with the idea or the understanding that there is always built into the evaluation of a child with possible meningitis some period of time for evaluation, diagnosis and then treatment, which in the average pediatric case, not necessarily the case under discussion here, the average is about two hours.

Q I understand what you are saying, Perhaps I didn' make my question as clear as I thought I had made it or hope

to have made it. Let me rephrase it,

I'm speaking of the time period from the point where the physician has already done his examination and strongly suspects meningitis in an acutely ill two and a half year old child, and he doesn't want to do a tap, because he suspects perhaps increased intracranial pressure. From that point in time, where he already strongly suspects meningitis and knows there is going to be a delay in doing the tap of one hour, would you agree with me that under those circumstances it would be prudent and appropriate for the physician to adminsiter antibiotics?

MR. HOTHWELL: Object to the form.

A Again, prudent and appropriate, yes. Required, not necessarily.

BY MR. DAVID:

Q Now would that be any different today as we sit here in February of 1989 than it would have been, for example, in July of 1984?

A I think there has been a change and evolution in the thinking about the empiric administration of antibiotic, from then until now.

Q I would like to know what your understanding of 1984 -- Let me ask you this: Do you believe that it would

have been prudent and appropriate -- I'm not saying necessary, I'm taking that out. I know that you have told me already that you believe it is not necessary for some reason, probably legal reasons more than anything else. But speaking just in terms of what is prudent and appropriate from a medical standpoint, do you believe that it would be prudent and appropriate in 1984 for a physician, who strongly suspects meningitis in an acute presentation in a child two and one half years old, who was looking at a delay of one to two hours in performing the tap because he wanted to get a CAT scan first -- do you think under those circumstances in 1984 it would have been prudent and appropriate to administer antibiotics prior to doing the tap?

MR. ROTHWELL: Object to the form,

A Again, answering your question with respect to prudent and appropriate, yes, I think the magnitude of the harm that could be done by administering empirical antibiotics wouldn't be so great that it would be outside of the standard of care to do it, So I think there would be physicians in 1984 who would have done it,

BY MR. DAVID:

Q Now, I read in the emergency medicine books -- and I know this maybe just slightly outside your field,

although I'm sure you are called in as an infectious disease consultant in emergency cases --

A Yes, sir.

Q It is not totally foreign to you.

A No, sir.

Q I read in the emergency medicin books that the authors say with an acute presentation of meningitis -- and obviously the doctor already examined the child, since he knows -- or strongly suspects he has an acute presentation of meningitis with a delay in the tap for whatever reason -- that they want antibiotics to be flowing within 20 minutes from the time the child -- the doctor suspects strongly meningitis, 30 minutes within that time and the author says no more than one hour if there is any delay in even getting the spinal fluid, If you are doing the tap and having a problem getting the fluid, for whatever reason, you want those antibiotics flowing in no more than one hour, Would you take issue with any of that in general?

MR. WATSON: I object to the form of that question. What you said is paraphrsing,

MR. DAVID: I am paraphrasing it, of course.

A If I understand your question correctly, you've already gotten the spinal tap and are to the point where you

know this child has meningitis?

BY MR. DAVID:

Q No. You haven't gotten the tap. You can't get spinal fluid. You can't get the tap, because you are perhaps concerned with the situation of increased pressure, You have a dry tap or something stopping you from doing what you want to do and that is looking at the fluid. That's the circumstances I'm setting up. Would you generally agree with those authors paraphrasings?

MH. WATSON: Objection,

That you would like it flowing 20 or 30 minutes from that point?

MR. DAVID: Yes, or an hour at the most,

THE WITNESS: I would say those doctors are quoting a Cadillac standard, which is the best standard for children in the United States of America to get antibiotics absolutely as soon as possible.

BY MR. DAVID:

Q Is that a critical thing with acute, fulminating meningitis in children, to get antibiotics as soon as possible?

A If you are using the term acute, fulminating meningitis as to what I know it to mean, I think you are

dealing, in fact, with a dismal prognosis, where more than half probably die regardless of what antibiotic is administered.

Q Let's say half of them are going to die, and we will discuss that figure a little later, Assuming that hal of them are going to die, you don't, obviously, know which half that is, correct?

A Correct.

Q So, isn't it true, then, the more acute, the more fulinating the meningitis that's presented, the quicke the physician needs to get the antibiotics flowing as possible?

A 1 think the answer to your question -- I would sa any time there is an acutely ill child there is a need to give antibiotics as soon as possible. In patients that hav acute, fulminating, we don't withhold medication and say, "just die," obviously, Of course, that's not the case. The reason for doing the rapid antibiotic administration isn't a proven reason wherein that early administration is going to eventuate in some people living and dying. In fact, the literature suggests that's not the case at all. We do it because nothing else can be done €or the patient and it should be done routinely quickly anyway.

Q Let's go into that just for a moment if we can. Do you know approximately how long it takes with the appropriate dosage of an appropriate antibiotic given I.V. to become therapeutic in the spinal fluid in a small child, a two and a half year old?

A Largely a function of what drug you employed.

Q Let's take Chloramphenicol, with the understandin that that turns out to be the appropriate drug that the bacteria Hemophilus influenza type B is sensitive to.

A As the case here,

Q Right.

A I think you put your finger on a major problem with this case and survivability, That is Chloramphenicol as given intraveously to a patient is not an active drug. It is Chloramphenicol Succinate and what happens to that drug when it is infused into the patient's body is that it circulates through the liver, The liver unhooks, if you will, the free Chloramphenicol from the Chloramphenicol Succinate, which happens over a period of 30 minutes to an hour and a half, but very variably over a period of 30 minutes to an hour and a half consentration in the serum continues to rise and then the consentration in the spinal fluid will rise.

To answer your question, in pediatrics if you give the drug at 4:00 a.m. and reaching peak blood levels, the spinal fluid levels probably aren't present for an hour to two hours. So one could look at this case and say the stack -- or the deck was stacked against this baby in many ways. The kind of disease she had, number one, but also the fact that the organism was resistant to Ampicillin, the one drug that would have worked immediately, and stacked as to the treatment requiring an hour or two hours to go by before there would be significant antibacterial activity.

Q Again, I'm paraphrasing, but I reaa -- and I don't know whether it is true or not and that's why I'm asking you, and I'm not sure that you have given me the precise answer to the precise question that I was asking, although I appreciate you giving me all the information that you have, Can you tell me how long it takes for Chloramphenicol to reach a therapeutic level in the spinal fluid of a two and a half year old girl, that is given an appropriate dose I.V.?

A Yes, sir. I think in that long paragraph I said a range of one to two hours after the administration of the drug one would find therapeutic levels in the spinal fluid of Chloramphenicol.

Q Now, I read it was 30 minutes to an hour that the Chloramphenicol would be therapeutic -- at a therapeutic level. I'm not sure that means peak level, but therapeutic level within 30 minutes to an hour, Is that the range of your understanding or do you believe that that's wrong?

MH. WATSON: I object to the form of the question.

A Certainly, 30 ,inutes would be much too soon to be what you consider peak --

BY MR. DAVID:

Q I didn't say peak. That's why I'm wondering if we're talking about different things.

A I'm talking about free Chloramphenicol, the only microbiotically active part of Chloramphenicol, not Chloramphenicol Succinate. Not the old way, which would be total Chloramphenicol, but the free active antibiotic killing the bacteria. In 30 minutes, I don't think you would find therapeutic levels in a child two and a half years of age.

Q Thirty minutes to one hour?

A I woula say, again, -- and I'm not trying to equivocate on this answer, It is a very thorny issue, the pharmacogenetics, myse1f included, because pharmacogenetics are so unpredictable. But 30 minutes -- one hour after infusion, there would be some percent of patients who would

have therapeutic levels, but I would say if you want to find say 60 percent of the patients have to wait 90 minutes or even two hours.

Q So, I guess what I'm saying is there must be somewhat of a range with regard to the individual patient, and I guess there is a certain amount of a range with regard to --

A Patient to patient.

Q (Continuing) -- different doctors' views of it?

A I don't know that the different doctors really working have different views. People quote old literature and don't know the new stuff and might not understand what's gone on in the last five years of Chloramphenicol pharmacogenetics.

Q Am I correct in understanding that you would not know how long it would have taken Lorene to have reached a therapeutic level as you have defined it in her spinal fluid on the morning of July 17, 1984?

MR. WATSON: Object to the question, Do you want him to repeat his answer?

A I could tell you period of time where I'm sure she had a therapeutic level, but I can't tell you the earliest minute whereby she had a therapeutic level, except in the range that we have already talked about.

BY MR. DAVID:

Q And that range -- I'm not sure if that range is 30 minutes to 90 minutes or one hour to two hours.

A One hour to two hours would be my best answer exactly, sir.

Q Let's take the one hour, realizing that it's the shortest period of time that you have suggested.

A Can I interject? I don't want you to pose a lot of questions and then have misunderstood my answer. It is one hour after the end of infusion. So, if infusion starts at 4:00, it goes until 4:30 and we get levels at 5:30.

Q Fair enough. I'm not quibbling over that at all, but I do appreciate your telling me.

Now I've forgotten my question. Perhaps you coul read my question back?

(Whereupon, the previous question was read for the record.)

In the one hour period that the drug may become therapeutic after it is given, during that one hour period can you tell me how the bacteria -- the Hemophilus influenzae bacteria multiply during that one our before?

A You niean before any antibiotics what the growth rate of the bacteria would be in the spinal fluid --

Q (Interposing) That's not exactly what I was asking, but answer that one. That's an hour before the antibiotics are administered, Let's take that. In the hour before the antibiotics are administered, how does that Hemophilus influenzae bacteria grow in that hour, if it does?

A It does, I think there is no question that the bacteria in the spinal fluid multiply with time. I think it's been shown that spinal fluid can be an inhibitor to the growth of many bacteria. I don't know as I sit here today that Hemophilus influenzae Type B has teen specifically studied in this respect, I know of no bacteria such as this which grows as well in the spinal fluid as it does in the laboratory media, broth, let's say. In fact, they grow considerably less well in spinal fluid and this is normal spinal fluid. So, how well did the bacteria grow in the hour before any drug was given to this patient? Considerably less well then if this was bacteria growing broth or some other laboratory media, So, instead of having the doubling time of say 20 minutes, it could be twice as long or four times as long, some multiple of that,

Q Based upon your study ana knowledge in this field, would you believe it would be reasonable that the number of bacteria might double within the hour?

A Yes, sir, it would be reasonable,

Q Might they reasonably double within 30 minutes?

A As I remember the data on the division in staphylococci and strep --

Q (Interposing) I'm referring specifically to Hemophilus influenzae Type B,

A I would say more likely -- in my opinion, more than a 30 minute doubling time,

Q So, would you say something between 30 minutes t an hour in the spinal fluid?

A Yes,

Q Let's assume just for the moment that the number of bacteria multiply -- double in the one hour prior to the administration of the antibiotics. Then I want to know in your opinion, based upon your experience and your readin s - I guess more readings than anything else -- how fast or how much they would multiply in that hour during which the antibiotics had been administered, In other words, let's take a time, for example from 12:00 midnight, just using that arbitrarily, to 1:00 o'clock. You're indicating that in spinal fluid Hemophilus influenzae Type B would probably multiply double or be about twice as much at 1:00 o'clock as it would at 12:00. Let's say the antibiotics are

administered at 1:00 or shortly after 1:00 o'clock. Up until 2:00 o'clock, how would they grow at that point?

A I think there are two variables. One would be the increase in consentration of antibiotics with time in the spinal fluid to get a therapeutic level and the other, a difficult one to wrestle with, is the effect of ongoing progressive inflammatory reaction in the spinal fluid in slowing down the doubling time. I think both probably would do that. The patient's own immune response could change it from an hour doubling time earlier in the meningitis to an hour and a half, two hours, a guess, as the inflammatory reaction increases, and if you had Chloramphenicol in there it would prolong it some more. I don't know that anybody can give you a number, hour or time to hang that on.

Q So, no one really knows, and this is your understanding, I guess, based upon the literature that you have read. I assume you don't do these tests when trying to --

A (Interposing) No, sir,

Q It is your understanding that, number one, this would be variable from patient to patient?

A It is a function of the inflammatory reaction. The greater the inflammatory reaction, the slower the

bacteria grow.

Q It would be variable with regard to the quantity of the drug that you gave?

A Correct.

Q It could be variable with regard to the immune system of the particular patient?

A Correct.

Q Might it be variable with regard to the liver of the patient?

A Well, that, in fact, has the biggest limiting enzyme for the production of free Chloramphenicol, It also varies with respect to the MIC of the Hemophilus influenzae Type B and the -- Some require infinitesimally small amount to inhibit or kill and others require 20 times that amount,

Q Do we know what kind of Hemophilus influenzae Typ B that Lorene had?

A Only so far as its resistance to Ampicillin, but sensitivity to Chloramphenicol.

Q Do we know what strain it was in that sense?

A I think maybe you misunderstood what I said. It is a function of the amount of drug required to inhibit or to kill the organism called the MIC of the orgainism. Thst test was not done. So, we don't know whether it woula be

one microgram per milliliter of Chloramphenicol or .5 or two micrograms.

Q The thing we don't know is the MIC?

A Minimal inhibitory consentration; that's correct.

Q Could that test have been done?

A I can't speak to the capability of the Good Samaritan Hospital in 1984, but it could have been sent out and done, sure. It would require actually growing the organism. It takes three or four days to get this information.

Q Now, just to finish the thought, if it is of any value at all in the -- now we are to the second hour, 2:00 o'clock, in our hypothetical, and it's now reached the therapeutic level that we have discussed earlier. From that point of reaching the therapeutic level, for the next hour what type of multiplication or growth would you anticipate, if not exactly, at least relative to the preceding hour and the preceding hour?

A I think, relatively, it would be clear that; the multiplication rate of the bacteria would diminish.

Q So, can we say that the sooner you get the drug into the child, the sooner it inhibits the growth of the bacteria and the.sooner it starts to kill the actual

bacteria?

A I think there is no question about that, Whether that's beneficial to the host or sometimes harmful to the host or sometimes -- the word irregardless comes to mind, but it is not the proper word, Sometimes it doesn't matter what happens to the host, There are different issues, but as you posed the question, yes, you inhibit the organism faster the faster you give the antibiotic.

Q Now, you may have seen in some of the depositions -- at least one of the witnesses went round and round on the difference between bacteriostatic and bacteriocidal in therapeutic consentrations. I still don't know why we wasted so much time on that, but does this Chloramphenicol drug in the dosages that are properly given for meningitis in a child of this age -- does it actually kill the bacteria?

A Cerainly not all the bacteria, It is bacteriocidal for some, but with respect to Hemophilus influenzae Type B it is bacteriocidal, yes, sir.

5 That simply means that tnis drug kills the bacteria?

A Yes.

Q The other term -- I think it is called bacteriostatic, Does that mean it doesn't actually kill the

bug, but it stops it from multiplying?

A Yes, sir. It stops it from growing and diminishe its metabolic capabilities and the immune response will do the rest.

Q With Chloramphenicol -- With the Hemophilus influenzae Type B, like we have in Lorene,,with Ampicillin and Chloramphenicol being given, is it true in the therapeutic levels that it would be given at that it would be both bacteriostatic and bacteriocidal in Lorene?

A I'm confused now. What would be --

Q When both drugs are given, even though this happens to be Ampicillim resistant Hemophilus influenzae Type B, when you give Chloramphenicol and Ampicillin in combination or either of those two drugs, being both inhibitory, that is bacteriostatic and, obviously, we have already established that it kills the bugs -- at least Chloramphenicol does and that's bacteriocidal?

A I'm a little confused about your question. We don't really ever talk about an antibiotic being both bacteriocidal and bacteriostatic for the same organism. I mean Chloramphenicol is a bacteriostatic agent for staph bacilli, It doesn't kill it, but it is a bacteriocidal agent for Hemohilus influenzae type B. It just kills it, If you

add one bacteriocidal agent like Ampicillin to another, like Chloramphenicol, one then doesn't stop acting as a bacteriocidal agent and become bacteriostatic. They both remain bacteriocidal agents. As you know, the organism is resistant to Ampicillin, so it's sort of beyond the point.

Q That's what I wanted to ask you. Is there a "potenuating" -- or something that because you mix these twc antibiotics and they have certain proerties -- each of then I guess -- that you might get a better reaction than you would with just the Chloramphenicol?

A Well, there are ways of doing that, but Ampicilli isn't one of the ways. The reason the organism is resistan to Ampicillin is it produces an enzyme called betamylactase (phonetic), which chews up the bacteria. If it produces that, Ampicillin isn't going to work. This was a betamylactase producing strain. If you add cholinantic acid (phonetic) to the Ampicillin, you would do what you think you might be able to do, which is overcome the orgainisms ability to produce tnis enzyme by binding it up with cholinantic acid (phonetic), but that's --

Q (Interposing) What I'm trying to figure out is does it take something out of the bacteria -- does it hurt the bacteria, the fact that the spinal fluid or the bacteria

have to secrete something in response to the Ampicillin? Even though it is not killing it, does it sort of take some of the punch out of the bacteria, which has an effect of harming the bacteria, your know, for the good, even though the Ampicillin -- the organism is resistant to the Ampicillin?

A In this case, I really don't think so. There would be some combination of antibiotics where that has been shown for other organisms, but in my understanding I don't think it has ever been shown that Ampicillin "potentuates" the action of Chloramphenicol when the organism is Ampicillin resistant. You've probably read Bill Fedman's stuff. I know it's been alluded to that if you have an Ampicillin sensitive strain and a Chloramphenicol sensitive strain the combination is either additive or energestic, but I don't believe it's been shown that Ampicillin -- that the combination works better than the one would alone.

Q I want to ask this tactfully, because I don't want to suggest that you are not very knowledgeable, because, obviously, you are. Are you right up 'to -- completely up to speed, so to speak, in this area?

A Well, I would answer your question that I'm up to speed as it relates to the clinically relevant features of

of the treatment of meningitis.

Q Is this more academic or less clinically relevant, the pharmakinetics?

A It is highly clinically relevant, since people have not yet been able to determine how much combination therapy benefits the host. If that were a given, we would all be practicing combination therapy. So, that's my answer.

Q That's good enough. I want to go on to something else, if I may, and this is very, very general and I will take your answer to be very, very general. You've read, I believe, at least some of the experts that were hired by the -- on behalf of the same defendant that has hired you, hired by the pediatricians lawyer and hired by the hospital -- by the emergency room doctor's lawyer, and I know this is very general, but give me the answer very generally, Do you generally agree with the various things that they have been telling me in their depositions?

MR. WATSON: Object to the form of the question,

MR. HALL: Let me join in that objection.

MR. WATSON: I mean, you are taking about thousands of pages.

MR. DAVID: I know. It was hard for me to take

and even harder to read.

BY MR. DAVID:

Q I'm trying to figure out if you have anything new and original that hasn't been gone into, Quite frankly, I don't want to waste your time and my time if you're pretty much in agreement with what they have to say.

MR. HALL: Let me object to the question, I think it is probably impossible to answer.

MR. DAVID: It's difficult, I agree.

THE WITNESS: Obviously, when you read everybody else's depositions, there are bits and pieces where you have a difference of opinion as to the facts supportive to the statements or conclusions. But I would say, in general, my feelings are very similar to Dr. Kleen's feelings with respect to the case, My feelings are -- I would look on hirr as being the other major expert, since his field is similar to my field with respect to the treatment that this baby got, Dr, Delson is the deposition that you took -- the "War and Peace" deposition we will call it.

Q Meaning it was long?

A Yes, very long. I would say I agree generally and generically with most of his basic feelings about the very bad prgnosis and the fact that this was not undue delay in

the administration of therapy and so on. I think he has some misconceptions, as many people do, about some very particular problems in infectious disease.

Q Your opinion is that the child more likely than not would have died even if the appropriate antibiotic therapy had been adminsistered within an hour to two hours of the presentation into the emergency and I want to discus that.

A Okay.

Q I want you to tell me in the greatest detail that you can from your specialty's standpoint, what her conditio was that fits that opinion of yours. I want you to give it to me at 1:00 a.m. -- realizing she arrived at the emergenc room -- well, it is actually 1:05 to be precise, I want yo to tell me how it progressed, if it did progress, and I presume it did, at 2:00 o'clock a.m., and I want you to tel me precisely in your opinion how these symptoms, the mechanics, the physiology, whatever the proper words are -- how it progressed to 3:00 a.m. Start with 1:00 o'clock a.m , if you will.

A COuld I ask your permission to start at 9:00 p.m. before she came in?

Q Yes, please do,

A I think that factors into what we mean.

Q Absolutely. You want to start at 9:00 a.m. or --

A Or thereabouts.

I believe this patient had a case of acute meningitis, which is best termed acute, fulminating Hemophilus meningities. I say that based on the parent's description of the child in the evening before bringing her to the emergency room, that as of about 9:00 o'clock , righ before her bedtime, the child was not sick -- well, she was playing -- I don't want to misuse the word, because she was ill, but she was playful and active and ate some dinner and did all the things we expect of a child with a trivial illness would do, She had a slight fever and had vomited once, but was playful according to the father. Then she presents around midnight with an episode of enuresis, which was probably due to a seizure, cerebral posturing and they bring her to the emergency room, but by the mother's histor before being handed over to the emergency room she is alert -- or awake enough to mumble or say "mama" or "mom" or some word such as that, Whether it was a purposeful statement and recognition of the mother or just something that the child was mumbling incoherently, I don't know that anybody knows.

By the time this child is examined, and the examination. was conducted by the E.R. doctor around 1:15, 1:30, in that neighborhood, the child is noted to have unilaterally dilated'pupils, to be posturing in a cerebrate manner, probably had some respiratory embarrassment that wa temporary based upon Nurse Duck's evaluation of some respiratory problem,

Q The stress?

A The stress at that point. I think at 1:00 to 1:3 this child had gotten very, very sick and certainly from th four hours prior to that haa gone from a reasonably healthy child with normal neurologic function to a child with focal neurologic signs, flaccidity and cerebrate posturing, suggesting this disease was very, very agressive and unkind to the patient's neurologic function,

Q If we could go to 2:00 o'clock, when Dr, Roberts enters the scene?

A At about 2:00 o'clock --

Q Just let me interrupt you Just for the moment. I want to ask you some more about 1:00 o'clock,

A Okay.

Q How do you view the flaccidity that's mentioned in one portion at -- I'm using 1:00 o'clock or between 1:00

and 1:20 -- How do you view the flaccidity on the one hand and the rigidity on the other hand. Both seem to me to be happening -- People seem to be telling us that she is both flaccid and rigid. Explain that to me, if you can.

A I think often times with the evolution of increas d intracranial pressure you will see waxing and waning neurological findings. One sees rigidity, t'he flaccidity and then rigidity again. That's one possible explanation. The other one is just that she was having a seizure or repetitive seizures.

Q Okay, I know there is a variety of possibilities I guess what I want to know is: To come to your analysis, to you assume that there was flaccidity and then there was rigidity and then there was flaccidity again, or do you assume that perhaps it is that the observer is not being precise or do you assume that she is actually having seizures, or do you come to any assumption based upon a reasonable degree of probability?

A I think the assumption I come to or the opinion I come to is that she was probably having an evolving neurologic syndrome, which had posturing and then no posturing and then posturing again over time.

Q Would that necessarily be a seizure or would that

be a response to some increased intracranial pressure?

A It could be either.

Q Would you have an opinion on that?

A Probably a response to increased intracranial pressure based on the absense of other extremity jerking,

Q I didn't see anything in the record where Dr. Getz or Dr. Roberts noted an examination of the eyes which included the venous pulsations. Had they done that -- Had there been a venous pulsation noted, would you then believe that there was probably not the increased intracranial pressure as the cause of the flaccid and then rigid and then flaccid situation?

A Let me answer by saying I think the record is clear that DR. Roberts attempted to visualize the fundi, as I have attempted to visualize some of the same things we ar talking about now, but was unable to see, which is common i young babies,

Q Unable to see what?

A Unable to know whether there is venous pulsations or not. It is a reasonably easy thing to see in an adult with average vessels. It is not easy to see in a two month old or two year old baby with very tiny blood vessels.

Q Hut whether it is easy or not easy --

A (Interposing) It is something that we can look for,

Q It is not easy on the child either.

A I agree. It is not something that we could require a physician reliably to identify in every patient.

Q I'm not requiring anything, but there is no note. I don't know what he is going to say when we ask him at the trial, but neither Dr, Getz nor Dr. Roberts noted that they attempted to visualize the venous pulsations and were unable to find them or didn't find them,

A Just so the record is clear, I don't know what Dr. Roberts specifically meant by this, but I did not it in my review of his report in his adrnission -- typed admission note, I guess, at about 3:30 or 4:00 o'clock in the morning, and if I could find it here -- "Fundiscopic examination was attempted. The fundi are not well visualized,"

Q Is that the same thing as saying that he tried to visualize the venous pulsations and saw them or didn't bee them?

A It is the same thing as saying he tried to look for papilledema. I would assume, based upon what I would look for, he would look for hemorrhages aue to child abuse, papilledema, and he might look for venous pulsations in an

effort to see whether there was any increased intracranial pressure. Rut he looked and couldn't see the fundi very well for whatever reason, motion on the child's part, eye motion going back and forth, That's as much as I can add to that issue.

Q What do you make out of the fact that when the CAT scan was done there was no evidence of any increased intracranial pressure?

A Well, it is the common experience with patients who have severe, fulminating meningitis with increased intracranial pressure that the initial CAT scans are normal, and the reason for that is presumed to be -- and I don't know that anybody has ever looked at it in an animal model -- but there are three kinds of cerebral edema which accur with the infection, vasogenic, cytotoxic and interstitial and all present with different variations and all are hard to find on a CAT scan, It isn't as if the brain is diffusely swollen with the water, It is increased interstitial water and ncreased cellular water, all which are producing the increase n brain edema.

W Why would one, then, delay a tap in a person with n acute presentation of -- and strong suspicion that the chil may have meningitis to do a CAT scan if one would know that

that's a pretty typical presentation in a CAT scan? It looks normal, but may not be normal, The child may not be normal, but the CAT scan may well typically be normal, and here now you have wasted -- not that you have done it intentionally, but you have givem away two hours -- actually three hours by the time it is reported after 4:00 o'clock. You have given away three hours of time only to get, as I understand you, what you might reasonably get. You may still have the increased pressure and the CAT scan shows normal and you've got nothing for your time.

A Well, I'm -- The answer to the question is that you don't know what the CAT scan is going to show until the CAT scan is done, and in a case like this, where trauma was a consideration, if this child had a subdural hematoma it could be a fatal stroke, If this child had impending herniation and you did a spinal tap, it could be a fatal stroke. There are things you would see that wouldn't be rare that would prevent you from going aheau and doing the spinal tap.

The second part of the answer to your question is, as Dr, Kleen said, not many years ago it was the tradition of many, many people trained to get the spinal fluid before you treat, because it might be hard to unravel the situation if you don't get the fluid and it might do more harm if you don't

get the LP and do the spinal fluid then waiting a few hours.

Q Let me go to the word "tradition" for a moment, I have five physicians who tell me and will tell the jury tha they have never heard of a tradition in medicine, that they have never been taught it, never taught it themselves -- thos that are professors -- and they have never read in a book or article of any kind whatsoever that there was any tradition a any time of withholding antibiotics in a child where there is a strong suspicion of meningitis, in an acute presentation, when there was going to be a significant delay -- and I'm usi that term loosely -- for whatever reason to get a CAY scan or whatever. Are you telling me that you have practiced that tradition ever?

A Yes, sir --

MR. WATSON: (Interposing) Excuse me, I object to the form of that question, Why don't you ask questions, rather than give your speeches or we will put you under oath.

BY MR. DAVID:

Q When did you withhold antibiotics from a child that had -- that you had a strong suspicion had meningitis in an acute presentation for a period of four hours? When did you do that, what year was that and I would like to know the name of the child?

A I did it, as everybody I trained with did it, probably from the years '72, when I entered residency, until the last couple of years, 1985, '86, '87, and even today it is still part of a tradition of how to approach patients with acute meningitis.

Let me just -- and Mr. Watson may object to your question and you may object to my answer, but I will go through it. Ralph Fiegen from Houston, who used to be a St. Louis, and I don't know that he started the ball rolling, but there is an article or editorial in the Journal of Pediatrics by Warren Wheeler many years ago, I'd be guessing '71, '72, called "Lumbar Tapper's Dilemma," where this issue came up, what do you do with a kid that has an LP done, the kid has meningitis, but it doesn't look in the spinal fluid as if it is necessarily bacterial meningitis. The answer is there is alot of things you can do, All right? You can treat or wait for four to six hours and repeat the spinal tap and then hope that you clarify the issue, Those would be the two major ways of going, and that in a way was one or the cornerstones of this issue: Let's *get* the spinal fluid and make sure we know what we arc dealing with, Then Fiegen comes along with a study published in the New England Journal not many years ago, relatively speaking for an older guy like me --

Q (Interposing) How many years ago?

A I don't remember. Late seventies, I believe,

(Continuing) -- where a group of children come i with an LP that looks early to be bacterial meningitis, and i is in the summer, which epidemiologically should be viral. How do you answer that, put them in the hospital and treat th m or is there another way? They say wait six to twelve hours, repeat the tap and see what happens. For many years people practiced that way, Kids with a couple hundred cells in the spinal fluid, irritable, then wait a couple of ours and do another tap.

Q An irritable baby?

A Yes, sir,

Q I'm not interested in arguing with you, but I'm speaking of an acutely ill child, like Lorene, where you have a strong suspicion of meningitis and knowing that the tap is going to be delayed for several hours,

A If you look at the Task Force 1986 addendum to th Journal of Pediatrics on meningitis, even today -- or '86, anyway, and I think today, there is this Sense of a physician having some latitude to decide whether or not to anminister mtibiotics to a child who is going to be transferred to a tertiary care facility, because they are sick with meningits

or do you just transfer the patient before the LP is done now We can argue -- and I know you will argue very forceably at trial -- that hour hours is too long or two hours is too long but I think it is not written in stone as to what constitutes too long to wait if you are going to transfer a sick child,

You wanted me to point out some of the pieces of literature and speak to the tradition over the years that gives the physician the latitude to say we need the spinal fluid. In the years before antigen testing became popular or even available --

Q (Interposing) When did it become available?

A CIE's and antigens would be the late seventies or early eighties.

(Continuing) -- not everybody believed in them or used them the way I would or other people would, But through that time, I think there was certainly a sense of "spinal fluid is gold" and we need to get it and we will do a lot before we start treatment,

Q It may be we are saying tne same thing, but approaching it from a different perspective. You do agree with me, do you not, that it would have certainly been appropriate and reasonable and prudent in 1980 for a physician who strongly suspected meningitis in an acutely ill child, who was looking

at a delay in getting a tap, to go ahead and administer the antibiotics immediately and then went ahead with his CAT scar tap or no tap, depending upon what the CAT scan said, We hav agreed on that, have we not?

A Yes. I think, again, this word appropriate and reasonable doesn't necessarily mean if you don't do it that you are wrong. I wouldn't find fault with a physician who di that. I would say that's one way to satisfy the standard of care.

Q And with a child who -- Strike that,

And if a physician -- I don't remember from your CV. How many years have you been practicing?

A Since '76.

Q You would, then, not take issue with any physician who would be of the opinion that with an acutely ill child, like Lorene, with her presentation at the emergency room, if the physicians that examined her strongly suspected that she had meningitis -- that is to say their most probable diagnosis was meningitis or working diagnosis was meningitis or their number one diagnosis was meningitis, you wouldn't disagree with any physician who would say that, in my opinion, based upon my training and my experience from the time that I first became a doctor in 1968, it would have been appropriate and

and reasonable and prudent to administer antibiotics prior to getting the tap, when you looked at a possibility of a delay in detting a CAT scan prior to a tap; am I correct?

MR. WATSON: I object to the form of the question.

MR. HOTHWELL: Join.

MR, HALL: Join in the objection.

MR. WATSON: He agreed with you that it was appropriate to treat in 1980, as it would be to work up a spinal fluid.

BY MR. DAVID:

Q Looking at it just purely from a common sense standpoint, if you guess wrong and decide not to give the antibiotics, you may be permitting more damage to occur to the patient; is that correct?

A If you are talking about a two hour or four hour interval of delay.

Q With any delay, you may be causing more damage. I'm not saying you are going to necessarily kill the patient or the patient is going to necessarily die, but because of the nature of the disease that we are talking about you may be causing additional damage that you would not be causing if you had opted to administer the antibiotics at time zero, as opposed to the time of one hour post, two hours post, three

hours post or four hours post, correct?

A But I think you put your finger on the tradition and the philosophy behind the tradition in your question. To answer it, I would say --

Q Am I correct on it?

A You are correct in the sense that I would agree with you that as time goes by more damage is going to occur to the central nervous system. Whether or not it would be biologically significant or not, we could argue, but more significant and more damage, The question posed in medicine, which is always posed: What is that increment of brain dysfunction vis-a-vis making the decision to start empiric antibiotics and all the problems that you then buy after that which in your patient you see right now you don't know has meningitis, and could have encephalitis or a subdural hematoma, anyone of the presentations of unusual diseases, as well as the fact that when you have started therapy with chloramphenicol you run the risk of anaphylaxis, aplastic anemia, any number of serious problems, and you may have committed a patient to a ten day course of therapy in a hospital with a drug that could cause potential harm.

So, the background behind the philosophy of the tradition is just what you stated. How do you weight the two

risks, One risk is there. Yes, there would be some damage that might be finite and rnight not be important in the hour or two or three that we wait, but, by the same token, there will be damage to this patient as described by hopkins in two articles in American Journal of Diseases of Children. There are many disadvantages when you are taking a child and putting them in a hospital for an extended period in order to treat with antibiotics, I think the phsyician has the latitude to nake the decision for themselves and would not be wrong necessarily to decide to go two or three nours before treating or deciding to *go* right away, and in my view, as far as this field, tie goes to the runner,

Q Now, are you saying by your answer to that last question -- I'm not sure I remember what the question is anymore.

A I apologize for my lengthy answer,

Q That's all right, Are you saying there wasn't much damage going on to Lorene between 1:00 and 2:00 and 3:00 and 4:00 and 5:00 o'clock in the morning?

A No, sir,

Q She was, in fact, getting more and more significan damage, was she not?

A Yes, sir,

Q And that's what you earlier told me, because she had a fulminating type of meningitis, right?

A Yes, sir.

Q So all of that business -- and I don't mean to make light of it, because it was a generality that you were speaking of -- but all of that business you could argue about whether it is really going to be doing any damage, whether it is finite, all those words, that's not Lorene. Lorene was sbsolutely, in your opinion, being damaged minute by minute and hour by hour before the antibiotics were administered after 5:00 in the morning; is that correct?

MR. WATSON: You've got a heck of a crystal ball here in 1989.

A I would say clearly she was damaged by the increasing intracranial pressure as time went by. The decision to adminsiter antibiotics, presuming meningitis is the cause of that, knowing it may not change that pressure and, in fact, might worsen it, or pursuing sone other cause for it as rapidly as possible, again, I *see* that ab two issues on which a doctor could come down on either side of and not be wrong,

Q Certainly, I understand you would see it that way, but you agree with me, sir -- 1 want to be sure that we do have

this understanding, As I'm understanding you, in the case of Lorene, she was being damaged significantly each minute and each hour that she remained there from 1:00 o'clock in the morning until 5:00 o'clock in the morning, correct?

A I would agree with you.

Q And that was known -- It is known not only to you after the fact, but it was known based upon -- we haven't quite gotten to 2:00 o'clock yet -- but based upon her rapid progression of her symptoms by the history from 9:00 o'clock up to 1:00 and then from 1:00 up to 2:00, she is getting progressively worse, is she not? Is that what you're telling me?

A I think if you were to do serial sections of her brain and look under a microscope you could see increasing inflammation. I don't think I woula agree that this was a clinically apparent hour by hour tremendous downslide on this patients abilities.

Q It wasn't?

A I agree with you.

Q No. Are you saying it wasn't?

A As you look at a patient -- I know -- In retrospect knowing that she had this meningitis, I woula say, yes, it probably was, but as one looked at the patient at 1:00

o'clock to 2:00 o'clock to 3:00 o'clock to 4:00 o'clock, I'm not sure that there was that much clinically apparent change in this patient's course that would make you jump to that conclusion.

Q You are not sure? Your answer was you are not sure that you would jump to that conclusion?

A I'm saying I wouldn't look at the patient and be able to make that conclusion,

Q Okay. Let me go to the CAT scan again for a moment. Now, we have this CAT scan and, as one might expect, one who is a knowledgeable physician like yourself, it is completely normal and we don't know whether the child has a contraindication for a tap or not. We don't know whether the child has increased intracranial pressure or not. Isn't that exactly the position that we were in at 1:00 o'clock in the morning?

A I don't see it that way, I see it as a fact that the CAT scan showed no reason why the spinal tap can't be done, and Dr. Roberts, obviously, made a phone call to a neurologist to varify that issue and was reassured that the spinal tap could be safely done,

Q Can a spinal tap be safely done if there is a significant amount of increased intracranial pressure that

doesn't necessarily show up on the CAT scan?

A You are asking if a CAT scan is norma1 and the patient has increased intracranial pressure is it safe to do a spinal tap?

Q Yes,

A Yes, I think it is.

Q Why is that? Is it because they don't, in fact, have a significant amount of increased intracranial pressure.

A Because the amount of pressure present is not enough to shift the structures in the brain to a point where you are going to herniate your cerebellum.

Q So the CAT scan, then, is a diagnostic tool that can be used to deterrnine if there is any significant amount of increased intracranial pressure that will be a contracindi cation for a tap, correct?

A Generically that's true, yes.

Q And have you known that fact for -- ever since they have had CAT scans? Let's use ten years. Is that a commonly known fact for many years?

A It has been for me.

Q And you are a pediatrician?

A Yes, I am.

Q You would not have to call a neurosurgeon at 2:20

in the morning to ask him about that, would you sire, you, yourself?

A Myself, I probably would not call a neurosurgeon. Can I understand how a physician looking at a child with fixed pupil would, sure.

Q Believe me, I know that you are understanding of Dr. --

A Hoberts.

Q (Continuing) Robert and Getz and the Good Samaritan Hospital, as I know that you know I'm understanding of Lorene and her mother and father,

MR. WATSON: Do we pay extra for that on the depo or do we get that for nothing?

MH. DAVID: You get that €or nothing.

BY MR. DAVID:

Q Would you, yourself, have to call a neurologist after you got the negative CAT scan to ask him whether it was okay to go ahead and do a spinal tap?

A No, sir. I think I've already answered that.

Q And you learned that in your pediatric training before you got out of -- at least before you finished your residency, correct?

A Of course, I trained through the era when CAT scans

were becoming available, so I had a lot of experience with them, yes,

Q What do you make of the fact that Dr. Hoberts, who I understand you do have some feeling for, -- what do you make of the fact that he calls a neurosurgeon to ask him if a CAt scan can be done to determine whether it is safe to tap and then he gets the safe tap -- He also looks into the Nelson's Text, which is a book, I guess, he either carries in his car with him or went to a library during all of this at the hospital, and then calls the neurologist at 4:00 o'clock in the morning or sometime at least before 4:30 in the morning to see, now that he has the negative tap, can he safely tap.

MR. WATSON: Don't you mean the "negative scan"?

MH. DAVID: Negative scan, yes, Pardon me.

BY MR. DAVID:

Q What's your understanding of why he calls these people? Why shouldn't he know all this? Why shouldn't a pediatrician -- Do you think a general, board certified pediatrician doesn't know all these things?

MR. WATSON: Object to the form of the question as compound, and it contains facts not in evidence.

MR. DAVID: I think he is a board certified pediatrician. As a matter of fact, he is board certified.

He flunked the test once and then passed it on the second time.

THE WITNESS: I can't tell you the number of calls I get weekly from pediatricians who know the answers tc the questions they're asking, but they want someone to hold their hand and about things less life-threatening and less severe and less frightening to a doctor than Lorene Holloway' presentation. So, to call and ask is not necessarily the sam as not knowing, I'm pretty sure this is the case, but, you know, boy, it is too important to fool around, so I'll call and ask the particular question to the guy who should know.

BY MR. DAVID:

Q It's uncertainty, isn't it, in your opinion?

MH. WATSON: How about at 3:00 o'clock in the morning with a gravely ill child that you are concerned about

BY MR. DAVID:

Q It is uncertainty, isn't it?

A I think every time I treat a patient there is uncertainty in some factor of my treatment with the patient, If I'm less conversant with the disease and it is outside my area of specialty, then I'm likely to call somebody up,

Q Let me ask another question along the same lines, but maybe a little less speculative, Would it have been, in

your opinion, reasonable and prudent for a physician having examined Lorene and taken the history and had the interplay with the parents and so forth to have -- and he came to the conclusion that he -- most probably that she had meningitis and most probably it was an acute presentation, the bad kind - Would it have been prudent and reasonable and acceptable in 1984 for that doctor to have decided that I'm going to do the tap and I'm not going to delay the tap, nor am I going to delay the antibiotics -- I'm going to tap and I'm going to giv antibiotics if I find -- well, I'm going to tap and give amtibiotics regardless of what I find in the spinal fluid? Would that have been, in your opinion, reasonable , prudent and appropriate also in '84?

MR. WATSON: Objection to the form of that question. It is a hypothetical question, which doesn't contain all the fact in evidence.

A Do I think it would be reasonable or prudent to c a spinal tap on a baby this age with these focal neurologic signs, I think that would be outside the stanaara of care,

Q If you looked into the eye and saw the venous pulsation existing, assuming that you knew to do that, then could it have been reasonable and prudent and acceptable to g ahead and tap without delaying it or waiting for a CAt scan o

anything else?

A The only time I've ever seen venous pulsations in the fundus of a human being has been in adolescents and adult patients, I've never looked for venous pulsations in the fundi of children that --

Q (Interposing) This would be for children two and a half years old --

A Yes. It has never been part of my repertoire of teaching or training. I wouldn't know to put it into the augurhythym of what to do with the patient. We look for papilledema and hardly ever see it, because it is hardly ever there in increased intracranial pressure of short standing. If I knew there were papilledema and venous pulsations in a child who looked like this, I would probably not do a spinal tap.

Q I don't recall offhand what this papilledema is.

A Swelling of the optic nerve as it exits from the brain into the eye,

Q And that you rarely see, am I correct, in a child of this age?

A In meningitis that's aggressive and acute, that's correct.

MR. WATSON: Counsel, I would call upon you to

take a five minute break.

(Whereupon, a brief recess was taken,)

BY MR. DAVID:

Q Let me ask you this, doctor: Your opinion that there was a flaccidity and then rigidity and then flaccidity again probably being -- if I understand what you are saying - is transient increased intracranial pressure?

A I would say not necessarily transient. I would say an evolving picture of increased intracranial pressure when the brain can autoregulate or down regulate some of that pressure for a period of time, but then those mechanisms become overwhelmed, the radicular and capacitant vessels and so on.

Q What's your opinion of the fact that the left pupil appeared to be dilated and then without any intervention therapeudically, without any medicine being given, the pupil apparently undilated or became the same size as the right pupil?

A That's a question that I have that I can't answer. Did it undilate and become the same size or are both now dilated?

Q I think the fact is that it undilated.

A I look at that --

MR. WATSON: (Interposing) Do you want him to just assume that for purposes of your question?

MR. DAVID: Yes. I think that's what happened.

THE WITNESS: If I remember, it was still superficially reactive, so it was still not normal.

BY MR. DAVID:

Q *Yes,* absolutely, but if it is a fact that the pupil was dilated at 1:00 o'clock in the morning and then later, without any medication being given, at least, became undilated. If that's in fact what happened.

A I think -- Well, there might not have been truly any medication given for the pupil, but the child did receive a CAT scan and the contrast material may have acted to dry out the brain a little bit and allow for some of the eaerna to be temporarily diminished,

Q You noted you have read Dr. Roberts' deposition snd I assume you reaa Dr. Karl's deposition and I assume some others. Did you notice where they believed that the eye may Have been postictal? As a matter of fact, I think Dr. Roberts wrote that in his note, that he thought that the eye was possibly postictal. Do you agree with that possibility also?

A I think it is possible, but, in my view, if it were really postictal, then as that got better the patient

should get better.

Q Would it be consistent if the eye was, in fact, postictal, meaning that it was from seizure and not from increased intracranial pressure, would the fact that it became undilated in the period of time that it did be consistent with that?

A With it being postictal?

Q Yes,

A Again, it could be consistent with it being postictal, although I would suspect in true postictal paralysis one would be improving in all other neurological parameters as that paralysis itself gets better.

Q That would be the field of neurology, I guess, -- pediatric neurology?

A Child neurology,

Q Child neurology?

A Right.

Q What would be against the proposition that the child was having intermittent seizures during this period of time to account for the flaccidity ana rigidity and the eye becoming dilated and then unailated? What would be against that theory?

A Well, it would be unusual seizures for childhood

in that they're not tetanic seizures, which would be the vast majority of seizures. So, it is clinically unusual, The second would be if, in fact, the child is having repetitive seizures on the background of coma, that is status epilepticus, which is a very, very bad prognosis and serious illness and has in and of itself a very serious prognosis. So, in a way, I don't know that there is a tremendous amount of need to prove one way or the other what they are, except to say it is a strange presentation, nurnber one, in childhood and, number two, it is a bad prognosis if it is seizures,

Q And you don't believe it was seizures? I mean it probably wasn't seizures?

A Correct, especially since we do know that during the course of four or five hours that went by, from 4:00 a.m. to 9:00 or thereabouts, the child did have intermittent episodes of twitching, and so I don't know why the child would be having these normal kind of seizures intermittently, but be in the background of straining kind of seizures.

Q I didn't see any seizures from the time the child was brought in until what's described as five or ten second twitching immediately prior to doing the spinal tap at 4:30 in the afternoon --

MR. WATSON: (Interposing) Morning.

BY MR. DAVID:

Q (Continuing) -- 4:30 in the morning. Did you see any seizures during that period of time?

A No, That's the first one I noted in the record, too.

Q If the child is getting progressively worse because of the meningitis, why are we not seeing seizures?

A I can only answer the question by saying it is probably only one out of five children who present with meningitis that do have seizures. What protects the other four from a presentation of seizures I don't think anybody knows. I sure don't know. It is a minority of kids who do have seizures,

Q But you do recognize that the child probably or more likely than not had a seizure, even if it may have only been transient, when he urinated in bed shortly before 12:00 o'clock?

A That's correct,

Q So, if the child is getting progressively worse and is already a child that's going to seize and has seized, why isn't the child seizing from that period of 12:00 o'clock or 1:00 o'clock until 4:30 if the seizures are occurring as a result of the increased altered intracranial pressure?

A Again, I don't know that anybody understanas why children with meningitis seize in the average instance -- and I can pick out a few instances where I think it is well understood -- but in the average instance anyway, and I don't know why and nobody, to my knowledge, understands why many children who have one seizure depolarize their brain enough that you now see diffractory seizures from that time, but that's a fact of seizures,

Q You recognize, I presume, that there is certainly the possiblity that the child did not have -- never did have up until 5:00 o'clock in the morning, 6:00 o'clock in the morning any significant increase in intracranial pressure? You recognize that as a possibility, do you not?

A I usually try to think over all the possible, you know, permutations of a case and that actually never entered my mind as I reviewed the case and all the primary naterials --

Q (Interposing) Let me suggest something to you --

Off the record,

(Whereupon, a aiscussion was held off the record.

BY MR. DAVID:

Q You noticed that Dr. Roberts diu not believe that there was any increased intracranial pressure when he actuall

did the tap and extracted the fluid. You saw that, did you not?

A I don't know that he did a manometric pressure reading.

Q I don't believe he did either, but he was, I presume -- WEll, you tell me. Would a pediatrician not be -- a pediatrician who was worried about increased intracranial pressure enough to call a doctor, do a Cat scan, then call another doctor -- He is going to be looking ana feeling and being very attuned to whether that fluid comes out with any significant amount of pressure, will he not?

A I would say this: In cases where the fluid does come out that way, you can make a good estimate that the patient does have increased intracranial pressure, but there is cases where you've got the needle only half way in the subarachnoid space or the patient is twisted or bent in such a way that you don't get a big effusion of fluid. We have done LP's with kids that are hydrocephalus, for instance, to drain fluid off and we have trouble draining it off like with anybody else,

So, to answer your question, a negative CAT scan for pressure doesn't mean there was no pressure.

Q A negative CAT scan for pressure means that there

is no pressure. We know there is no significant increased pressure, correct?

A No, sir, not in this case.

Q I thought you said the CAT scan was going to tell you that?

A The CAT scan tells you whether or not it is anatomically contraindicated to do a tap, herniation or subdural hematoma being present, but --

Q I thought you told me that the CAT scan was diagnostic for determining whether there was a significant amount of increased intracranial pressure that would prohibit the doing of a lumbar puncture?

A If I said that I stand by that with the explanation that the reason you do the CAT scan is to make sure that there isn't some anatomical problem which is going to obviate the need for --

Q (Interposing) Well, there's no problem there, I guess I'm saying is: Did we forget there was, in fact, not -- at least that CAT scan and then presumably the tap -- that it in fact, turned out not to be any significant increased intracranial pressure that would have prohibited a tap earlier on? We are agreeing on that, aren't we?

A We are in absolute agreement, since there wasn't

any pressure, there was no anatomical reason for not doing to tap at the time of the 4:00 o'clock tap, and, as we talked about before, the pressure was probably higher than it was at 1:00 or midmight.

Q So, realizing -- I think the scan finished at about 3:40 or 3:50. If there was no significant amount of increased intracranial pressure at that point, the probabilit es are that for the hours earlier there was even less pressure?

A I think you are misusing my terminology. The CAT scan showed that the kind of pressure this patient had and th amount of pressure this patient had was not a contraindicatio to doing the spinal tap. It is in my opinion in other cases and other cases of severe, fulminating meningitis that there s significant increased intracranial pressure, interstitial, vasogenic, cytotoxic that will not contraindicate a spinal tap.

Q Is it the kind of pressure that's going to herniate your brain?

A It may.

Q Did it in this case?

A I don't see any evidence of it on the CAT scan.

Q Did it at 4:00 o'clock?

A I don't see any evidence on the CAT scan.

Q I'm saying if it had herniated the brain you would expect to see it in the CAT scan, would you not, at 4:00 o'clock?

A You would see it sometimes in a CAT scan, yeah,

Q I'm asking you most probably or more likely than not you would have seen a herniation of any kind in the CAT scan, correct?

A Correct.

Q So, it is your opinion, if I understand you correctly, that at least by 4:00 o'clock in the morning Loren probably did not have a herniation of her brain?

A As best I can see in the record, that's true.

Q I want to go to about 6:00 o'clock in the morning I think I can perhaps be more precise, so we don't get into an inaccurate assumption.

At 6:20 in the morning I noted a two minute seizure and that was the first seizure that I noted in the records, other than that five to ten second one that we talked about at 4:20, shortly before the tap. Do you recall what I'm talking about?

A Yes, I do.

Q Up until 6:20, did you see any evidence that would make you conclude that there probably had been a herniation

by that point?

A No, I don't think I did.

Q And then at 7:15 was the next thing neurological1, as I understand it, There was a seizure at 7:15. Up to that point, did you see any evidence that would make you believe that she probably had a brain herniation up to that point?

A No, sir.

Q Then at 8:15, it seems like one hour later, she had a 25 -- a long seizure, I think it is -- I don't know th exact number of minutes, but it is the first long seizure, Up to that point, did you see any evidence that would make you believe that she probably had a herniation of the brain at that point?

A No, I don't.

Q At 10:30, when she went into respiratory arrest -- and this is shortly before she was transferred to intensive care -- up to that point -- or at that point did you see any evidence that she probably had a herniation to the brain?

A No, I don't,

Q Do you have an opinion based upon a reasonable degree of probability as to whether or not she ever herniated prior to her death?

A I don't have an opinion whether she did or not.

To me it is sort of beside the question, The question is whether this child's increased intracranial pressure was enough to kill her brain. I don't know that she herniated, I don't see that examination disclosed it. She was on a ventilatorand sometimes it is hard to tell without doing an autopsy or CAT scan.

Q Certainly, before the ventilator, there was no evidence that she herniated?

A As to my review of the record, no,

Q And up until -- let's take 10:00 a.m., because that's the time when she was transferred to I.C.U., and just using it as a cut off' -- up to that point, do you agree with me that there was no life threatening, inappropriate A.D.H. secretion up to 10:00 o'clock in the morning of the first day? Do you agree with me, sir?

A Yeah, in general I do, If I could clarify my answer? I think any amount of increased intracranial pressure subsequent to I.S.I.E.D.H. is going to pose a problem for the patient.

Q My point is up to 10:00 o'clock in the morning we don't have any information of any inappropriate A.D.H. to begin with. That comes later in the progress of the hospitalization.

A I'm trying to remember when the serum sodium of 128 was obtained.

Q Please check that, if you have the record there, I happen to have it here, too. I want to be sure that we are in agreement that the inappropriate A.D.H. was something that occurred long into the condition and wasn't the cause of the problem.

A Well, I have here on my notes that by 7-17 at 10:00 o'clock a.m. the serum sodium was 128.

Q Do you have a page reference to that?

A No, I don't.

Q Let me have the notes, if I may, just for a moment.

(Handing to counsel.)

A This is, obviously, from the laboratory data.

Q I've got it. Here's the lab. Let me give you mine, if I may. The first sodium that you referred to, I think it will give you the time --

A I don't see any sodiums on this page.

Q You've got to turn it,

A Backward?

Q I'm not sure,

A Here it is (indicating). Okay. "7-17, 136 at

at 1:30 a.m." and then "128 at 10:00 o'oclock, 7-17," and by 6:30 the next morning it was 130.

Q Can we agree, then, that there was no significant problem with inappropriate A.D.H. up until -- up until what time, would you say?

A I would say by 7-17 there is some evidence this child has some inappropriate A.D.H. secretion.

Q By what time?

A By 10:00 a.m., whatever time that blood was taken

Q But the 1:30 blood --

A Was normal.

Q 'l'here was no inappropriate A.D.H., at least the sodium doesn't inaicate it?

A Correct,

Q At 10:00 o'clock, the sodium is slightly -- ab I recall, slightly elevated?

A Low, 128.

Q Slightly low,

A At 10:00 on 7-17.

Q Right, arid the normal would be what?

A 135.

Q So we are going slightly low, correct?

A Correct.

Q And then, even at July 18 at 6:30, it is even le:: low than it is --

A Right, 130.

Q So, we agree up until at least July 18 inappropri te A.D.H. secretion was not playing a major role in Lorene's condition? Do you agree with that?

A I would agree that S.I.E.D.H. probably was ongoing, but probably was not markedly contributing to her ongoing neurologic problems at that time,

Q Do you agree with me that there is no way to give an opinion based upon a reasonable degree of medical probabil :y that this child had any genetic predisposition that caused he demise, because she wasn't checked for genetics?

A You've asked a very hard immunological question. Just withdraw the question, You don't want to -- lhe bottom .ine answer would be probably yes, Probably every chila who gets it has -- Let me rephrase that. Probably a large number of children with Type B systemic diseases have an inability :o produce anticapsular antibiotics to Hemophilus polysacchar .e, 'hich in some way is linked to genetic tendency, because we now it does occur in families. Take a child with Hemophilus eningitis and study his brother and you will find that that hild has to ability to produce an abnormal condition.

Q I'm talking about producing dealth.

A I don't know of anything that has shown a study which shows a genetic link tying Hemophilus influenzae meningitis to immune dificiencies, which I can't testify as to her having,

MH. WATSON: Why do some get the fulminating type and some don't?

MH. DAVID: Thank you, Dr. Watson.

BY MR. DAVID:

Q Are you aware that there have been -- Let me star' at the beginning, You know that certain states contribute to the C.D.C. statistics study on Hemophilus influenzae meningitis?

A Prevalence.

Q Rate of prevalence and mortality.

A Yes.

Q I don't know whether you are familiar with the Florida experience or not, Let me tell you what it is, It is my understanding in Florida in 1984 there were 298 recorded cases of Hemophilus influenzae meningitis in children in Lorene's age group, and in that study three died, one of which was Lorene, making the mortality rate something less than 1% -- let's call it 1%. Is that a good rate? That is to say is Florida doing good in -- according to those statistics and in

seeing to it that 99% of the children in Florida in Lorene's age group that get this type of meningits survive?

MR. WATSON: I object and I've just got to interrupt. If you play golf, everybody gets some enjoyment out of a golf shot. If someone hits a lousy shot, his partne doesn't like it. If your 99%, you love it. If your 1%, your not too thrilled.

THE WITNESS: I would say that mortality statistic is within the range or realm of the mortality statistics that we would expect in the United States of American in '84.

BY MR. UAVID:

Q That kind of statistic is, in part, would you not agree with me, based upon the fact that physicians in Florida are apparently diagnosing and treating Hemophilus influenzae meningitis in a very timely manner? Doesn't that indicate that to you?

A I would say that's an indication that they are treating a disease that's treatable and diagnosing it in a timely manner, bur; I would also add that the mortality statistics for the entire United States haven't changed for 30 years,

Q So we agree that the disease that Lorene had, Hemophilus influenzae meningitis, at least in Florida where

she was, is a very treatable disease in 99% of the times, correct?

A Especially if you don't have the fulminating variety. If you have a garden variety of Hemophilus influenzae meningtis, yes.

Q Let's take a minute, That's a very intriguing thing to me, Would you care to give us your opinion as to how many of those around 300 children that were reported --

Let me back up just a minute, You would agree with me that there is actually more cases of Hemophilus influenzae Type B meningitis than would reasonably be reporte ?

A Yes.

Q You would agree with me that the deaths would generally be reported?

A Yes.

Q So, actually, when that statistic shows that ther .s a 1% mortality rate, the people that would study these :hings would actually say it is probably less than 1%, becaus :here is probably more cases of it, but probably riot many mor inreported deaths, right?

A I would say that's probably true, although, to be ionest, to the epidemiologist, he would want to know several 'ears experience in Florida or any number of other states

before making a judgment.

Q So, in your opinion, the statistics for meningitis, if one were to try to make some sense out of them, it would be relevant to look at '83, '84, '85 and '86 maybe to determine what the actual average rate of mortality would be?

A I think that would be -- Yeah.

Q Relevant?

A Yeah, relevant.

Q I assume that you have studied -- and tell me if you haven't -- various studies that have looked at the mortality rate of Hemophilus influenzae Type B meningitis?

A Yes.

Q What would be your understanding of what the percentage of acute cases would be -- you know, the acute presentation that you are saying that Lorene had as compared to the non-acute, the one that goes on for weeks, as I understand it, or for at least more than 24 hours, 48 nours? How does that break down, Hemophilus influenzae Type B, in children one to four years old?

A It is my view that the majority of the mortalities in Hemophilus influenzae Type B meningitis would, in fact, be the acute, fulminating variety of meningitis.

Q That's not the question.

A It is just background. My judgment would be that probably two or three or four percent of Hemophilus influenza Type B meningitis is, in fact, the fulminating variety of meningitis, It accounts for essentially all the mortality. Taking not just statewide the three and a half, four percent, you rarely find anybody dying, accept with the fulminating disease and the majority with fulminating disease, in fact, die.

Q If you saw a study that showed 61 children all with the acute, fulminant kind, at least according to the investigator who is trying to segregate those, and not a single one of them died, what would you make out of that?

A I would say his definition of acute, fulminant disease is probably different than my definition of acute fulminant disease,

Q You are defining the disease, so that if somebody dies you are saying they had the acute, fulminant kind'?

A My definition, as it is in the literature I'm familiar with, is the progression from the very beginning of the disease to coma, severe neurologic embarrassment, focal neurologic sings, such as Lorene Holloway has, in a period or 12 to 24 hours, which is not common in cases of Hemophilus meningitis.

Q And you think that accounts for four to five percent of the cases of Hemophilus influenzae B?

A I would give a range of two to four percent -- Tw to five percent of the cases in Hemophilus influenzae Type B would be by definition fulminating,

Q The emergency room cases of acute as opposed to non-acute as presented to the guys that work in emergency rooms, emergency room pediatricians that see presumably many, nany cases, do you know what their percentage is?

A I can only answer from my perspective working in dashington. Most patients that I've seen with bad problems come to their doctor's office, unfortunately, first and the doctor then gets an ambulance and sends them to the hospital. E.R. doctors are usually not involved, at least not here, but rather their pediatric phsyician. So, in our case, our experience would be very limited for acute, fulminantive disease.

Q You wouldn't have any reason to disagree, I guess, with an emergency room physician who specializes in treating children -- sick children who may not be able to afford to go to a doctor -- or have a private doctor to go to -- You would have no way of disagreeing if he were to be of the opinion that over the years he sees many, many, many acute, fulminant

cases of meningitis, like the one that you're describing as to Lorene, and the vast majority of those survive? You would have no way -- no experience to question that, would you, sir

A , I would question it very seriously. If that's his experience, he should publish it. It is not in the literature. It is not my experience. It is not the experience of anybody that I know about or talk to or deal with in pediatric infectious diseases. I just would find it hard to believe. I think we would be using a different definition of what I consider acute fulminating.

Q I assure you before the end of this case you will read it. Come Monday, they are going to have all of these -- these articles and I guaranty they will be in the mail to you the next day.

MR. WATSON: I'll be interested to see how they're going to show up Monday. I guess he's going to print them over the weekend.

MR. DAVID: Yep.

BY MR. DAVID:

Q Would you agree at least as of 1984 or probably for sometime before that that there wasn't a problem -- a significant problem that would stop a physician from giving antibiotics if he strongly suspected meningitis, an acute

presentation, prior to a tap with regard to making the eventual diagnosis of the particular type of bacteria in helping him with future antibiotic selection, because of any number of tests that were, at least by 1984, generally accepted and generally reliable?

A Well, by 1984, I certainly knew that and people in my field knew that, Whether every pediatrician was convinced that C.I.E and other tests would answer this problem, I don't think was necessarily true.

Q I agree with that. You don't think that every pediatrician knew a lot of things. For example, did you find it odd that Dr. Getz did not even know what the Kernig's sign snd Brudzinski's sign were?

MR. WATSON: Object to the form of the question.

A Yeah, I recall.

BY MR. DAVID:

Q Don't you find it odd in an emergency room, with a child presenting with acute meningitis not to even know what the sign is -- the KEhnig's and Brudzinski's signs are?

A Yes, sir, that is odd --

MR. WATSON: Object to the form.

MR. ROTHWELL: Join.

MR. HALL: Join in the objection.

BY MH. DAVID:

Q So, we can agree, can we not, that every physicia is not the test of what physicians may or may not know. That s not what we are talking abot here, is it, sir?

A I don't know that I understood your question just then.

MR. WATSON: Object to the form.

BY MH. DAVID:

Q Would you agree to elicit the Brudzinski sign one should have the patient lie down supine, bend the patient's neck forward to the chest, and if the knees flex contemporaneously, the patient probably has meningitis?

A Yeah, that's true.

Q So that's a pretty good little test for an emergency room physician to know, is it not?

A To go back and finish up my answer on the question of the Brudzinski sign, I would expect the average emergency room physician to know the names, but if he didn't know the names and did the test that would be okay in my view.

Q That's fine with me too, but he didn't do the test. You know that too, don't you, sir?

A I didn't see any notation in the chart whether *ne* did them or not.

Q When the pediatrician came along, I didn't note anywhere in the chart or anywhere in his deposition where he alluded to the fact where he performed the Brudzinski test, did you?

A I don't see the word. I remember reading at least once where he writes 'The neck is very supple' or 'supple.'

Q Not stiff?

A Which is the Brudzinski test, and I, myself, don't necessarily call it by name when I do an examination --

Q (Interposing) I'm not saying you need to know the name. The pediatrician knew the name, as I recall. You have your chart out there. Why don't you point to that place in the record that you believe Dr. Roberts indicates that he did elicit the Brudzinski sign or did not elicit the Brudzinski sign?

A I'm looking at the admitting history and phsyical dictated on 7-17, at the time of admission, I would imagine, and he says, "Neck supple."

Q Does that indicate to you that the Brudzinski sign existed or did not exist?

A It probably means it did not exist,

I think there is one other notation here where he says, 'The neck is completely supple.'

MR. WATSON: Here on the progress note?

THE WITNESS: Yes, a handwritten note that says, "Neck completely supple." "Generalized stiffness with cerebrate type posturing. Neck completely supple."

BY MR. DAVID:

Q The neck being completely supple, to you -- is that the way you would describe the Brudzinski sign?

A No --

Q Or the lack of Brudzinski sign?

A I think a stiff neck and the Brudzinski sign go hand in hand. What one does when one elicits a Brudzinski sign is elicit nerve root irritation for meningitis, and that is one reflex function, that is for the hips to flex to the sbdomen. I happen to know a lot about these signs, because I studied it for some other reason, I can tell you too much has been made about Kernig's and Brudzinski signs over the years, since originally it was described in patients with chronic, non-acute meningitis. To my knowledge, nobody ever really applied it to acute bacterial meningitis in children of different ages, Whether you do or not do it, or call it that or do not call it that, if the neck is supple, in my view, that's an evaluation of whether or not there is nerve root irritation in the patient, which is what you find by the

extension evaluation in the Brudzinski sign,

Q It is, in your view, just as good or almost as good to doing a test that's -- which is going to show whether the child probably has meningitis as to evaluate the supplenes of the neck? That's just as good to you as actually doing the Brudzinski test; am I correct, sir?

A I'm saying that in general and I'm saying in specific with respect to this case.

Q I want to know in general,

A In general.

Q You are of record now as being of the view that it is not necessary to try to elicit the Brudzinski sign in diagnosing a patient who is suspected of having acute, fulminating type of meningitis in an emergency room situation

A Let me answer in a paragraph. In tnose cases where the diagnosis is already so apparent that meningitis is high upon the list, if course it is not necessary.

Q Take this case of Lorene. Do you agree that neningitis was so high upon the list or so presumptive or lumber one consideration that it really wasn't necessary to lo the Brudzinski test, that the doctor knew from all the other history and physical examine that she probably had neningitis from the word go?

A I would say it would be so high up on my list that it would be probably unnecessary to do the Brudzinski test, because it would not change the course of events that would then go by.

Q You would disagree with anyone who would give the opinion that this child didn't present with the signs and symptoms and history which would indicate that meningitis was high up on the list or the top item? You would disagree with that?

A I would,

Q I think you were telling me before I got waylaid-- Let me ask you about this statement here, whether you would generally agree with this. "At times, a child with bacterial disease will present in extremis with respiratory insufficiency, abtondation (phoneitc) or hypotension. In these cases diagnostic tests, including cerebral spinal fluid examination, should be deferred until antibiotics are given and vital signs stabilize." Do you agree with that statement in general?

A COuld you read it again for me?

Q Yes, "At time, a child with bacterial disease will present in extremis with respriatory insufficiency, abtondation (phonetic) or hypotention. In these case5 diagnostic tests, including cerebral spinal fluid examination,

should be deferred until antibiotics are given and vital signs stabilized." Do you agree with that statement in general?

A I would agree with that generically, but more with specifically with respect to stabilization of the vital signs. We don't do a spinal if the patient is having difficulty breathing. We try to breath for them. If they are in shock, we treat their shook. The need to administer antibiotics empirically is done because you don't know whether it is going to be five days before you can do a spinal tap, which in this case isn't necessarily a consideration.

Q Taking the other part of the statement, do you agree with the other part of the statement, "At times, a child with bacterial disease will present in extremis with respiratory insufficiency, abtondation (phonetic) or hypotension, In these cases diagnostic tests, including cerebral spinal fluid examination, should be deferred until antibiotics are given and vital signs stabilized."?

MR. WATSON: Are you reading from an article on that?

MR. DAVID: Yeah.

MR. WATSON: Would you mind telling us what that is? Is that article dealing with children in septicemic shock?

MR. DAVID: No. It is an article dealing with meningitis.

MH. WATSON: Why don't you identify that article for us, since you are so determined to get me to identify mine for your good Dr. Carroll.

MR. DAVID: It is a statement from "Ambulatory Pediatrics." It is called "Ambulatory Pediatrics, III," published in 1984 , Dr.'s Green and Haggerty, and if you don't know who those gentlemen are, they are in a New York hospital, Cornell Medical Center apparently, and it is a statement under the title of "Meningitis," and I'm quoting it now, "At times, a child with bacterial deisease will present in extremis with respiratory insufficiency, abtondation (phonetic) or hypotension. In these cases diagnostic tests, including cerebral spinal fluid examination, should be deferred until antibiotics are given and vital signs stabilized."

BY MR. DAVID:

Q Having published yourself, you know that when something is published in '84, there's a pretty good chance it was written in '83, or at least a year before?

A Yeah,

Q So, that statement I read to you was apparently written in '83. There is nothing novel about it, is there?

A I don't think so, except probably in '83 it represented a minority view more of the academic establishment and less of the practicing physician establishment.

Q You mean that the doctors that are out practicing aren't as up to date as the doctors that are in your position, teaching and professoring?

A There are some baseline common ground that we all have to be coexistent with and practice the same kind of medicine, but, as I mentioned at that time it was probably more of a minority view of the academic establishment.

THE COURT REPORTER: Excuse me. I've run out of paper and have to change it.

(Whereupon, a brief recess was taken,)

BY MH. DAVID:

Q Now, doctor, without arguing about your opinion versus somebody else's opinion with regard to increased -- significant increased intracranial pressure, would you agree with me that in the analysis of whether or not Lorene, in fact, had a significant amount of progressive intracranial pressure, that there are at least three things that one would consider against that opinion, and they would be, one, tnat the eye may have be postictal as opposed to from intracranial pressure, two, that the CAT scan showed no significant amount

of increased intracranial pressure, and, three, and most importantly, that the doctor that did the tap, who was concerned about the possibility of increased intracranial pressure, has stated that he did not believe that there was any significant pressure when he actually did the extraction of the spinal fluid? Would you agree with me?

A I would agree with one of those three and disagre with the other two.

Q Which one would you agree with? I'll take any one I can get,

A I would agree that there is some credence to doing a spinal tap and seeing the fluia come out quickly, That probably happens very commonly with children who have increased intracranial pressure. I would defer to the literature or a neurologist as to how often that happens as to a child with increased intracranial pressure to tell me how much weight to put on it,

With respect to a CAT scan, I disagree that the Cat scan means anything with respect; to increased intracrania pressure, except for focal neurologic disorders, brain tumors and herniation, and I would disagree with your third consider ation, as far as her eye, because we know the child received an osmotic agent during the CAT scan, which would have change

that. The evolution of this child's illness to brain stem death and mid brain death over a perod of the subsequent 12 hours is more evidence that this child was having increased intracranial pressure.

Q But I say, with all due regard, doctor, that the brain stem death of th s child over the many hours was a direct result of not being treated for many hours. That coul(also be true, could it not?

A Again, I don't think that the four hour interval from when antibiotics could be given to when they were given would make that difference.

Q Let's go back to your first point. When was there first evidence of a brain stem death?

A I would have to --

Q (Interposing) I don't want to hold you to an exact time, but it is certainly -- it didn t exist before the child was put in the U.C.U. unit, did it?

A I don't know whether the neurosurgeon's evaluatio was at 9:00 or 10:00, when Dr. Martinez came in to see her and indicated doll's eyes or --

Q Did you read Dr. Marinez's depostion?

A I did.

Q He testified, I believe that it was sometime on

the 18th or 19th that he was first able to make a determination that he thought there was brain stern death. Did you see anything definite in your analysis?

A No, I can't sit here and recollect anything.

Q Are there any other writings, other than the depositions and hospital charts?

A I did write on the depositions or on the covers or sometimes occasionally in the depositions.

Q Things that you thought were significant?

A Just notes to myself.

Q Were they then put on this piece of paper?

A No, sir.

Q Would you pull out for me Dr. Getz's and Roberts' depositions and I'll just very quickly run through that?

MR. WATSON: Why are you entitled to see those, unless he used those to testify?

BY MR. DAVID:

Q May I see them, sir?

A These primarily are lists of issues that you raised with the person who is being deposed (indicating).

(Whereupon, a short recess was taken.)

BY MR. DAVID:

Q Do you have any other notes, other than --

A (Interposing) Again, most of the depositions hav things written on them, such as what is written on these two.

Q Do you agree that meningitis, Hemophilus influenz Type B in a child of Lorene's age, if it is not treated, in more than 90 percent of cases will result in death?

A I think there is no question in the pre-antibioti era that patients with this disease almost universally died and death usually coming on in ten days to two weeks, not three or four hours.

Q It depends on the type of presentation they have?

A Right. With the fulminative variety, right away.

Q What is the logic -- and when I say "logic" I mea thinking it through -- What's the logic of --

Let me withdraw that question and ask another question. Is it significant to analyse a child's blood pressure in a child that presents like Lorene presented?

A Yes,

Q And if the blood pressure is high, what is the significance of that, and if it is normal, what's the significance of that, and if it is low, what's the significanc of that?

A I think the significance of those three variables have to be put into the context of how the patient presents,

Q For a patient like Lorene.

A High blood pressure would be eviaence for increased intracranial pressure. Normal blood pressure would bemoot. It wouldn't speak to the question one way or the other, because not every child manifests Starling's response. Low blood pressure would mean the patient was in shock, probably, although there could be other reasons for that,

Q I assume you noticed that there wasn't a significant single recorded blood pressure until Dr. Roberts orderea it be done. I think in his 4:40 orders he orders it to be done routinely, and then I think they first do it at 6:00 o'clock in the morning or something like that, Did you notice that?

A Yes, I did,

Q Do you consider that to be innappropriate hospital policy and protocol, not to record blood pressures for an emergency patient for a period of five or six hours -- a patient like Lorene?

A I think it would be inappropriate not to take the blood pressures. To take them and not record them violates a statute that has to do with paperwork and has to do with bookkeeping and other things and may not be ideal, but if they were taken and told to the doctor, that doesn't compromise the

patient's care.

Q But the doctor that comes on later doesn't know what's preceded if it is not recorded,

A Except verbally.

Q And if the doctor took it, but failed to write it down, he may not remember if he knew what the pressure was, because certainly he can't hold that in his mind when running around and seeing a lot of other patients in emergency.

A You've put your finger on why it is ideal to have it taken down and recorded.

Q So, there are good, medical reasons, not just legal, why it is appropriate to take the blood pressure, particularly with a child like Lorene, and record it, correct

A True.

Q Now about with regara to giving medications? In a case where you have an emergency situation, where medication has been delayed, not because you've wanted it to be delayed, but where circumstances were such that it got delayed, and then all of a sudden you say, "By gosh, I've got to get this medication in, and you verbally tell a nurse to do it -- medications like Chloramphenicol and Ampicillin -- and you know you are racing against the clock, at the very least, don't you consider a half hour delay in running around trying

to find that medication to be inappropriate?

A No, I don't think a half hour is inappropriate, I know in our hospital the turn around time for stat meds from the pharmacy that aren't kept on the wards is an hour. We would like it to be faster, but that's a part of life and I would add to that, in this case, based upon my knowledge of the literature and what has been published on this issue, I think the folks at Good Samaritan Hospital actually beat the average in administering the first dose of antibiotics to this child.

Q Beat the average in waiting 30 to 40 minutes after it being ordered?

A Beat the average in that it was given four hours after she arrived in the emergency room, where as for the average patient who has this presentation of focal signs waits on the average of five hours before the first dose is administered.

Q What article might you be referring to?

A In Emergency Medicine by Bryan, B-r-y-a-n, 1985. It is called "Promptness of the Administration of Antibiotics in Meningitis."

Q Do you have the cite?

A It is Emergency Medicine, ana I think it is May '85

Q And it was Bryon -- Bryan?

A B-r-y-a-n, I think. I think he or she is the first one. There are several articles on it.

Q How does that square with the fact that in an emergency room, where this child was from 1:00 to 4:00 in the morning, that Dr, Getz said that he could have administered those two antibiotics had someone asked him to or had he desired to within five minutes?

A I think emergency room physicians are capable of doing that. I think the point I'm making and the literature nakes is patients who present with complicated presentations of meningitis, focal signs and coma, CAT scans are often sbtained before the first dose of antibiotic is given, so that you can do the spinal tap. Again, you have people that will argue that point and I understand that. I have my view and I think the literature supports it.

Q Doesn't that exact point argue in favor of those people that say give the medication right away or early on in the emergency room before you start to get complicated with CAT scans and having to go to other floors and having nurses running around having to get medication? Doesn't that argue in favor of giving it promptly in the emergency room?

A I would say that is one piece of evidence that

makes the Task Force's suggestion not to wait for CAT scans, but rather to give the medicine, since we can work out the details later, to have some credence, but I think the article proves as of 1984, even in a residency base program, not just a community hospital in West Palm Beach, they were by their standard of care and by their standard of approach still waiting to get the CAT scan to do the LP to do the antibiotic If we fault Dr. Roberts for doing that, we would have to faul every place in the country, and that's the standard -- that was the standard.

Q That's your opinion of the standard?

A Yes, sir.

Q And you have read many other opinions of that standard?

A Published opinions.

Q And you have read this in articles and --

A Again, I would say there is nothing wrong with giving the antibiotics, but the way medicine is practiced, as proved by the articles, that's not the standard.

Q Let me ask the logical question. What would be the logic of withholding antibiotics in a case where meningitis was strongly suspected and the LP is going to be postponed for an hour to three hours pending the results of the CAT scan

that may not be immediately available, with a two and a half year old child with acute symptoms, such as the ones that Lorne presented with at 1:00 o'clock in the morning?

A The logic would be the logic we have alluded to before. That administering antibiotics could obfuscate the diagnosis of what kind of a disease this patient has and consequently it could be very difficult to identify what else might be needed if this patient should not have bacterial meningitis.

Q How would it obfuscate the diagnosis?

A By virtue of the sterilization of the spinal fluid.

Q Would that be accomplished within one to three hours of the administration of the first dose of antibiotic?

A There would be a small percentage of patients who would no longer have a positive spinal fluid culture a few hours after the administration of the antibiotic.

Q You would agree that I think it is 95 percent of patients that were administered one dose of antibiotics and then their spinal fluid was taken one to three hours later -- that the vast majority of those patients would not even have the sterilization of spinal fluid at that time, correct?

A I would agree with you that the majority of patients in that short of a time period would not necessarily

have a sterile culture.

Q And even if they did -- if Lorene happened to fal into that small percentage that would have sterilized alread then there are other tests, antigen tests, C.I.E. tests, tha will give you the same information that you can get from the unsterilized spinal fluid, correct?

A There is no question in 1989 we know all that.

Q And in 1984, you knew that.

A I don't know that the average phsycian practicing in the community understood how uncommon it was to sterilize spinal fluid with one dose of antibiotics one to three hours down the line or had any great suspicion that antigen or C.I.E. testing would be that helpful in unraveling the diagnosis. The third point is no physician knows whether hi spinal tap, in fact, will be done one or two or three hours later, because of other things that may be going on with the patient, such as respiratory arrest after the CAT scan. Such things may make a neurologist say, "I don't think you better tap this patient.

Q Then why don't you go ahead and give the antibiotics?

A It depends on what is on the CAT scan. Sure you can go ahead and give antibiotics. It is easy for you in

this case to make that statement, but --

Q (Interposing) This is the only case I'm interested in.

A Right now we would do it, although when I leave here not necessarily.

Q But you do follow me on this --

A I think I'm making a point, at least for the record, I would like to. In this case, we know that the patient could have gotten a spinal tap at 4:00 o'clock and did receive an LP and then subsequent therapy.

Q 4:30.

A 4:30. But in many cases one doesn't know whether or not you are going to be able to do that spinal tap or not or what's going to be in the CAT scan.

Q Don't you agree with me that even had the CAT scan showed something that the child may still have had meningitis in conjunction with herniation, in conjunction with a tumor, in conjunction with anything and that that barrier may have well been broken in conjunction with whatever was going on - that the child may still have had meningitis and would have been treated with antibiotics regardless of what the CAT scan showed probably?

A I would say not probably. If you're dealing with

subdural hematoma, epidural hematoma from trauma, certainly you wouldn't use antibiotics in that situation if you had a patient presenting like Lorene. One would raise the issue of child battery and other things and you would have a neurosurgeon come in and evacuate the clot.

Q When was that neurosurgeon going to come in and alleviate a subdural hematoma from Lorene?

A As soon as it was documented on the CAT scan.

Q When was that going to be?

A As soon as they could get it done.

Q Do you think that anybody seriously considered a subdural hematoma -- Do you think Dr. Roberts seriously considered a subdural hematoma?

A I think bleeding was a major consideration for him ordering the CAT scan.

Q Why didn't he request a neurosurgeon or ask the one who he talked to to come in and to be available? Why wouldn't he have him come in and standby to do emergency surgery on that child's brain if he seriously suspected a subdural hematoma?

A I don't know.

Q Wouldn't that have been the appropriate thing to do if he seriously considered it and thought that at the

time he ordered the CAT scan?

A It would certainly be something I probably would have done.

Q We're not fencing here, doctor. If you seriously suspect a subdural hematoma, you must get a neurosurgeon in there fmmediately to be prepared to alleviate that situation, correct?

A I think you are right in a general sense. I think part of the scenario would be how far away does the neurosurgeon live.

Q If it were your child -- I hate to say this, but if it was your child, would you want to rely on calling the neurosurgeon back and relying on his car working? I'm asking you. You would certainly want to get that neurosurgeon in to standby to do that surgery if that CAT scan had shown a subdural hematoma, correct?

MR. WATSON: I object to the form of the question, and the basis is what the standard of care requires and whether or not it was appropriate to get the CAT scan results and then call him then.

MR. DAVID: Well, we'll take it that way. I don't want an objection to it, but I know what the answer would be if it were my child.

BY MR. DAVID:

Q If someone seriously suspected a subdural hematoma in this case, when ordering the CAT scan at 2:20 in the morning, one would want to have the neurosurgeon alerted, the anesthesiologist alerted, the surgical team alerted to standby to do emergency surgery, correct?

MR. WATSON: Object to the form of the question.

A It could be a function of how high up on $he list subdural hematoma was.

MR. DAVID: I said seriously considering it.

THE WITNESS: I think one can seriously consider things like that and not necessarily believe they are going to be there, and I'm sure that's how Dr. Roberts was probably seeing this case.

MR. DAVID: I'm sure he was, doctor.

BY MR. DAVID:

Q Again, we come back to, sir, that the greatest probabilities were -- and Dr. Roberts apparently knew it and Dr. Getz apparently knew it -- that the greatest probabilities were that this child had meningitis and with her age group it was going to be Hemophilus influenzae B, and by the greatest proability she was going to need Ampicillin and Chloramphenicol to be administered as soon as

possible until it was able to be determined what bug it was actually; is that correct, sir?

A MR. WATSON: Objection to the form of the question.

MR. ROTHWELL: So do I.

THE WITNESS: I think that is epidemiologically true.

BY MR. DAVID;

Q That's the probability?

A That's the probability, but I think the probabilities of other things are high enough to warrant a CAT scan.

Q But not high enough to warrant a surgeon -- a neurosurgeon standing by?

A It could be intraventricular subarachnoid depressed fracture, something that wouldn't necessarily be an emergency in the sense of having a neurosurgeon standing by.

Q If you had to give the probabilities of this being meningitis on the one hand or something else on the other hand, based upon ten minutes of examination -- the history taken in the emergency room and upon initial examination, what would you say the probabilities would be?

MR. ROTHWELL: Object to the form.

A I would say in the odds of five to ten to one that it was meningitis.

Q On another point, if you had gotten the spinal tap and it would have shown -- same patient, same probabilities, same symptoms, same ten minutes, but this time you do the tap -- you get the spinal tap and it is clear, do you give antibiotics? Do you?

A In this particular kind of a patient?

Q Yes.

A Did I do a CAT scan or not do a CAT scan?

Q No. You've examined the patient, you've taken the history, you've spent the ten minutes, you think there is a 50 to 90 percent chance of meningitis, you do the tap, but the fluid is clear. Do you give antibiotics at that point?

A It is a hard question to answer. I think it would be -- I think I could go either way. I don't think there would be a requirement for me to do it, and I might do it if it is the middle of the day and the lab is open.

Q No. No. No. It is 1:00, 1:20 in the morning.

A My thought would be to bring the spinal fluid to hematology lab and microbiology lab and say, "Give me a five minute turn around or 20 minutes turn around," something very, very quickly.

Q Fifteen, I think that's what it generally takes. Is that what it generally takes, 15 minutes?

A Yeah, or 20 minutes. It takes a while there.

Q If you had increased white blood cells, your going to go ahead and give antibiotics without question?

A White cells in the spinal fluid, yeah.

Q Even though it is clear?

A If you know white cells means meningitis, sure.

Q Well, you know that?

A Sure. In a patient who is sick, sure.

MR. **WATSON:** I thought the question was if it were clear?

BY MR. DAVID:

Q You could get increased white blood cells back by the lab and still have clear fluid, can you not, sir?

A Sure, until you have about 40 white cells.

Q So, if I understand what you are saying correctly, if you tap immediately and you get cloudy fluid, with a case presenting like Lorene, you, obviously, give antibiotics, and if you tap and you get clear fluid, with a patient like Lorene, you probably -- you, in particular, probably are going to give antibiotics?

A If there is white cells in the spinal fluid, yeah.

Q You'd wait for the 15 minute turn around?

A Sure.

Q And if you can't tap, because you are concerned with increased intracranial pressure, you, personally, would give antibiotics?

A Yes.

Q When would you not give this girl antibiotics? We've gone through clear fluid, cloudy fluid and no fluid and you would give antibiotics. Is there a time that you don't give it?

A One presentation that you haven't given was clear fluid that had no cells.

Q Obviously she had cells.

A True, but we don't know that before we do the spinal tap.

Q Maybe we do. 'Certainly you can look at the blood and the urine and that has the same 15 minute turn around, as I understand, on it with these quick tests that were available in '84, or so I'm told, and see that there is either a bacteriogenic or septicemic situation, correct?

A There are many features to that. Number one is that many laboratories, Georgetown being one, does not offer these tests in the middle of the night. After 11:00, we don't get them here. I've asked at Good Samaritan whether or not that was the case, and I don't know whether that was

the case, whether, in fact, it could have been done in the middle of the night.

Q Did you read Dr. Bland's testimony, a physician who was at one time an expert in this case for one of the defendants? She has given testimony and said that she is very familiar with what was available in '84 at this hospital because she started practicing there in '83.

A I read her testimony.

Q Take her testimony as being true.

A The laboratory slip has written antigen test and comes back C.I.E., which is, if you want to call it a rapid test, a rapid test, but it takes several hours to do. So, it is not on the same order of latex glutenation test. So, if in fact, the antigen test was C.I.E., I don't think it would have increased their rapidity of coming to a decision.

Q How about the latex glutenation? Is that not a 15 minute turn around?

A It is 15 or 20. You can get many false positives in the urine. If the physician knows that, they are not apt to test for it, because it can lead to the wrong diagnosis.

Q But, as far as you are concerned, you would give antibiotics if you got the urine -- Is it the urine that you would get to do this test?

A And blood fluid.

Q Blood and urine. The child comes in at 1:05, you take the history and you examine the patient, you can draw th blood and draw the urine and send it to the lab, and by 12:30 -- 1:30 you will have in Lorene's case -- you would have had in Lorene an indication that she has got bacteria in her blood and in her urine, and she is of the age group that it is probably Hemophilus influenzae B, and you can safely proceed to give antibiotics at that point. You are now supported far this particular patient with some pretty good evidence that this child has meningitis, correct, in this particular case?

A No. I think there is some holes in your thesis. One is that blood has a very low yield, significantly less than 50 percent, in children who have Hemophilus meningitis,

Q Did you see the test done on Lorene at 1:30?

A That was a blood culture.

Q I know, but the test that had been done --

A (Interposing) That's --

Q The blood had bacteria in it at 1:30, correct?

A Correct.

Q It would have more likely than not shown up on a test that had a short turn around time, correct?

A The answer to that question is no. Positive blood

antigen is what we test for in rapid tests and there is a very, very low consentration in the blood of patients who have bacteremia as we know Lorene had, so that less than 25 percent of patients will have positive bbood antigen.

Q How about urine?

A Urine is fraught with two problems. It needs to be consentrated in order to identify those patients who have the greatest likelihood of picking up the Hemophilus meningitis disease. That takes a long time, so we are no longer talking about a 15 minute test. The second problem is these tests were fraught with false positives in '84 and the only way to do away with that was to treat the urine, which takes some time and so you no longer have a rapid test.

Q So aren't you, again, saying -- making the absolute case for the propriety of administering antibiotics prior to a tap, prior to getting a blood and prior to getting urine and prior to submitting the patient to all these tests, which may or may not be definitive?

A To answer your question, I've never said it would not have been proper to administer antibiotics to this patient, and we have gone through this many times already. The other side of the coin is that in 1984 it was not improper to obtain a CAT scan, to do a spinal tap and then administer

antibiotics.

Q That is your conclusion and I don't want to argue with you on your conclusion, doctor. What I do take issue with you, sir, is I don't see a significant -- a single, significant reason that would weigh against in 1984 or in 198 the administration of antibiotics in an acutely presenting patient. I can't see one significant reason not to do it. You say that some doctors didn't do it then and, I grant you, I know of at least two that didn't do it, and I'm sure there are others that didn't do it. I also know that you and every other expert in this case does it.

A Certainly in '88.

Q And they did it in '84 --

MR. WATSON: (Interposing) Excuse me. I object to that. Have you got a question or are you making a speech?

MR. DAVID: I'm trying to get to the question.

MR. WATSON: And it is argumentative.

BY MR. DAVID:

Q Maybe we've done this and I don't want to belabor it, but can you tell me what is the significant health hazard -- a significant one now -- that's going to happen to a child who probably has meningitis who is given antibiotics before you see if the tap is cloudy or not?

MR. WATSON: He has already answered that on two occasions.

MR. HALL: At least two.

BY MR. DAVID:

Q This is the last time I'll ask you. You said some doctors weren't doing this in '84 and then you gave me a lot of ideas. Would you give me now the medical significance -- significant medical risk that existed in 1984 that would weig against the benefits of administering proper antibiotics to a meningitis patient, particularly one that was presenting acutely?

MR. WATSON: Look, he has already answered this question and --

THE WITNESS: (Interposing) I think I have.

MR. WATSON: (Continuing) -- how many times is he going to have to do it again? Imean, just because we're in Washington, D.C. --

MR. DAVID: I think I've stated a pretty good question.

THE WITNESS: As I think I stated a couple of times before, the thinking behind withholding therapy, getti: a CAT scan and doing the tap essentially boils down to a concern in patients like this that essentially one doesn't

really know one is dealing with meningitis with one hundred percent certainty and there are other things that can present like this, which require other therapy, such as herpes simple encephalitis and other problems that we have already alluded to, subdural hematomas and so forth, which may have a surgical problem, and, number two, the institution and administration of antibiotic therapy in a hospital for ten days, which is what you would be committing a patient to if it isn't meningitis and obfuscating the diagnosis, which can carry with it a significant amount of morbidity, and, number three, in 1984 there was a great deal of diversity of opinion with respect to how useful rapid tests would be in sorting out who had or didn't have meningitis, a great deal of confusion about that in the private sector, as well as the fact it wasn't well-known that two or three hours after a dose of this therapy you would still be able to detect the organisms in a majority of patients. So, in an effort to be a purist, know the diagnosis and in good faith administer proper therapy, the decision was made and was commonly made in '84 to withhold treatment, get the studies that were needed and get a better treatment.

MR. WATSON: He had another reason, too. He better know the name of a good defense attorney if the kid

doesn't have it and he gives her the drugs and the kid goes into anaphylactic shock and dies in front of you, and he mentioned that earlier too, the death from shock of anaphylaxis.

MR. DAVID: If you want to testify as to that, that's fine. They could probably get the same amount of docfors to obfuscate the issues as they did in this case.

MR. WATSON: Well, I don't appreciate you repeating your questions over and over again.

MR. DAVID: I don't need your talking and testifying. It is not your deposition. Either make an objection or, quite frankly, shut up.

MR. WATSON: I'm making the objection. You're being repetitous and covering the same stuff.

MR. DAVID: I did ask the question more than one time and I admit it, and you did give me basically the same answer and I'm admitting that.

BY MR. DAVID:

Now, you told me, in essence, what the thinking was or the justification and I'm not asking you that. I know, and as I'm sure you have read, there are as many doctors on one side as the other that will tell you what the justification is or lack of justification is. I was trying to -- and maybe I did it inartfully -- but I was trying to ask what the

medical consequences -- not what the thinking was or the rationale was -- but I'm talking about real medical consequences of the risks of not giving the antibiotic therapy at the earliest opportunity versus the benefits of giving it or the risks of possible reactions and the things that can come from potent antibiotics versus the potential benefits of saving a child, who may otherwise die or become brain damaged as the time period elapses. Can you address --

Have I made myself more clear than I did earlier?

A I think you have --

Q (Interposing) Can you address not what was though or was known or what was believed, but what, in fact, -- because, obviously different people knew different things and unfortunately, the doctors treating Lorene, I can tell you, did not know as much as most of the experts that have been hired in this case by the defense to testify --

MR. WATSON: (Interposing) Why don't you ask the question instead of giving a speech? I object to that.

BY MR. DAVID:

Q What I'm trying to get to very simply is what were the medical reasons for not opting for giving the antibiotics in a case like this prior to the delayed spinal tap?

MR. HALL: Is that any different than what you

just said?

THE **WITNESS:** Not any different. It comes down to concern for missing a diagnosis, which would be changed by virtue of giving the antibiotic and then harm would come to the patient, and, number two, adverse reaction to drugs given to treat the meningitis, and, number three, the requirement of having started treatment and continuing treatment for a ten day period, which brings you into the situation of a child being in the hospital for ten days where there are multiple misadventures.

BY MR. DAVID:

Q You would agree with me, I assume, that as far as Lorene is concerned this would have only benefited her? It certainly would not have harmed her?

A I don't understand what "this" refers to.

Q Giving the antibiotics at 1:15, 1:20 in the morning, it could only have benefited her?

A My view on this case is that no therapy from any time she came to the emergency room would have benefited her. Whether it would have harmed her, a doctor doesn't know that before he administers the first dose of Ampicillin, or if a child survives long enough to get Chloramphenicol for a period of time whether the white cell count is normal two

weeks after or the red cell count is normal two weeks after, So, I don't know how anyone would know that. I don't think it would have benefited her at all and there could be adverse effects from treatment.

Q But you would have given it to her?

A I would have given it to her for a whole bunch of reasons, one of which Mr. Watson put his finger on, but it wouldn't be the most important reason.

Q Tell me all the reasons why you would have elected to administer antibiotics to Lorene at 1:20 in the morning on July 17, 1984?

A There would have been one reason to administer that antibiotic or any antibiotic to this patient at 1:30, a quarter of 2:00 after having seen the patient and done an evaluation and that would be the hope that maybe a rare patient would benefit, even in acute fulminating meningitis, with treatment at 1:00 versus 4:30, but that's a slim hope and not a hope premised on the standard of care, knowledge and training. It is premised upon the same reasons why we take care of kids with AIDS or fatal diseases. We can take care of them, but do we have a cure, no. We try to get them better and get them out of the hospital. Yousay, "Maybe this will help. Maybe this kid will be lucky eniugh," but I don't

think a doctor should be held responsible to a standard of care that includes luck in it and I find that as a major part of this case,

Q Do you agree with me that no one knew when Lorene presented at 1:00 o'clock in the morning whether she was going to die or not?

A I don't think anybody knew. I agree with you it wasn't warrantly known.

Q Why, in light of that, would you have treated with antibiotics, rather than delay it until the CAT scan and spinal tap?

A I gave you the reasons.

Q No. You told me in retrospect that you thought she would have died anyhow.

Do we agree, sir, that at 1:00 o'clock in the morning Dr. Getz didn't know this child was going to die?

A Correct.

Q If you were there at 1:00 o'clock in the morning or :00 o'clock in the morning, or somebody with your knowledge, ou would have treated, correct?

A I would have treated, yes.

Q With antibiotics?

A Yes.

Q Why would you have done it then?

A I just gave you all the reasons. I would have said to myself, seeing the patient at 1:00 o'clock in the morning, "Oh, my God. Look at this story. The child was playful and well at 1:00 o'clock, focal neurologic signs and cerebrate posturing, rigidity and so forth, and this is at 1:00 a.m. This is the night prior. I would say, " Let's everybody do the best we can and hope this kid maybe is the rare patient and pulls out of it, but even if so, I would hope that there isn't major sequelae and that would be the major outcome in most who survive.

Q Aren't you saying, in essence, that the worse the condition is upon presentation, the more correct it is to administer antibiotics immediately? Isn't that what your saying?

A I don't think I would equate what I said to that. I think the worse the presentation upon admission and the more certain you are of the eventual outcome, you do things willynilly. Patients will get treated experimentally because of purported outcomes.

Q You won't agree with the premise that the more acute the presentation and the suspicion of emningitis in the child, the more reason there is to administer antibiotics

prior to a CAT scan and the delay incident to that and a tap?

MR. HALL: Counsel, that is exactly the same question.

THE **WITNESS:** I think right now you have entered a realm of therapy, which, to extend your statement, has stated over the years there has been little, if any, decline in the mortality rate in children in this country with Hemophilus influenzae Type B meningitis, even though physicians are trained and primed to identify kids with meningitis do a spinal tap and treat properly already. Even with the **I.C.U.'** that have come along, they haven't changed anything in terms of the mortality statistics in the last 20 years. The American Academy of Pediatrics **and** other people have come out in trying to make a difference in these patients, looking at the subset of patients with acute, fulminating varieties, **and** said, "Maybe things will be better if we don't wait for the CAT scan. Let's make a recommendation and say maybe you shouldn't always wait for the CAT scan." There is a difference between that realm of theory, which we could **all** enter into **and** agree with in in part in any way, shape or form, and **it** is approved medically, which derives how patients are cared for.

Q You believe that -- assuming my statistics are

correct -- that there was less than a one percent mortality rate in Florida from 1984 with Hemophilus influenzae Type B, and if you believe that, doesn't that indicate that the doctors, at least in Florida, are promptly diagnosing and promptly and timely treating Hemophilus influenzae B?

MR. WATSON: He has answered that question as well

MR. HALL: He surely has. How long are you going to put up with this in this deposition?

BY MR. DAVID: You said it wasn't significantly less, but the literature that I believe your relying on suggests that the mortality rate maybe something less than ten percent, and in the newer literature, suggesting maybe less than five percent, and I'm telling you and asking you to assume that in Florida in 1984 it is less than one percent Doesn't that indicate to you that early diagnosis and treatment result in a very diminished -- significantly diminished over the year decrease in the mortality rate of Hemophilus influenzae?

A I think one percent mortality rate there is the same mortality rate people have been reporting in other cities of three, four, five percent -- statistically there is no difference between those numbers, and at the same time mortality is one thing and morbidity is another thing. I

don't know what fraction of patients survive with acute, fulminating disease who really don't have a brain anymore.

Q You don't know?

A I don't know. But to survive is one thing and being in intensive care with a bolt in your head for two weeks, because you are lucky enough to come to a tertiary care facility is one, but being able to lead a meaningful life is a different thing entirely.

Q Dr. Roberts and Getz did not decide to withhold antibiotics, because they were concerned with either Lorene's dying or having some permanent cephalic damage: we agree on that, do we not?

MR. HALL: Do you have many more questions?

MR. DAVID; NO*

THE WITNESS: Yes, sir. Only it is besides the point so far as it speaks to your question.

MR. DAVID: I give up. Thank you very much. I'm happy you put up with me so long.

(Whereupon, the reading and signing of the depostion was waived.)

(Whereupon, the depostion concluded at 3:30 p.m.)

CERTIFICATE OF NOTARY PUBLIC/REPORTER

I, Marcia J. Tyler, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me in stenotypy and thereafter reduced to typewriting under my direction: that said deposition is a true record of the testimony given by said witness: that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

Marcia Tyler

Marcia Tyler, Notary Public in and for the State of Virginia

My Commission expires
March 23, 1992.