DISTRICT COURT
EL PASO COUNTY, COLORADO

ANDREW VITETTA and JANINE VITETTA, Individually and as Parents and Next Friends for KRYSTA MARIE VITETTA, A Minor,
Plaintiffs,

vs.

Case No. 04CV2023
Div.: 5

CATHOLIC HEALTH INITIATIVES OF COLORADO d/b/a PENROSE COMMUNITY HOSPITAL; MARY LAIRD, M.D.; KEVIN CORRIGAN, M.D.; STEVEN REICH, M.D.; COLORADO SPRINGS HEALTH PARTNERS, P.C.; JANET DUBRICK, NNP; MARY STILSON, NNP; and PEDATRIX MEDICAL GROUP OF COLORADO,
Defendants,

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DEPOSITION OF

ARMANDO CORREA, M.D.

May 12, 2006
1:28 p.m.

2320 Paseo Del Prado, Building B-106
Las Vegas, Nevada

Cynthia K. DuRivage, CSR No. 451
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Deposition of Armando Correa, M.D.

May 12, 2006

ARMANDO CORREA, M.D., having been first duly sworn to testify to the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

(Exhibit-1&2 were marked for identification by the reporter.)

EXAMINATION

BY-MR.TIEMEIER:

Q. Hello, Dr. Correa. My name is Greg Tiemeier. I'm the attorney for Dr. Corrigan in this case.

Could we have your name and professional address, please.

A. Certainly. My name is Armando Correa, C-o-r-r-e-a. My address is 1620 South Friendswood Drive, No. 133, in Friendswood, Texas 77546.

Q. And your occupation?

A. I am a physician.

Q. And what is your specialty?

A. Pediatric infectious diseases.

Q. And where do you practice?

A. I am an assistant professor at

Baylor College of Medicine in Houston, Texas.

Q. And what does an assistant professor do?

A. An assistant professor is responsible for patient care, teaching, research, and some administrative duties as it pertains to the patients of the institution.

Q. And percentagewise in terms of the time it takes you, could you tell me how much time you spend in each of those four areas, patient care, teaching, research and administration.

A. Well, patient care and teaching are together. Basically, the teaching is done as you have patients.

That is the bulk part of my time, about 90 percent.

Presently, I am not doing any research, and the other 10 percent would be administrative.

Q. About how much time do you spend on medical-legal work?

A. Maybe --

Q. And if you don't --

A. -- five hours a month.

Q. Okay. You've given many depositions before, and you've been asked lots of questions about how much time you spend and how many cases you review.

Was the information you gave in those depositions accurate and truthful as of the time you gave it?

A. Yes.

Q. So I don't have to reiterate at all?

A. That's correct.

Q. You understand that you're under oath now, the same as if you were in a court of law?

A. Yes, sir.

Q. And you have testified in court before, have you not?

A. Yes, I have.

Q. And you understand that if you give an answer in the deposition room that's different from what you give in the courtroom, the attorney is entitled to use your deposition to imply that perhaps you're not being truthful or not recalling correctly?

A. I understand that.

Q. You also know that you can take a break anytime you want. Just ask me, I'll be happy to accommodate you with the caveat that if there's a question pending, I'd like an answer to the question before we take a break. Okay?

A. Thank you.

Q. You're welcome.

And is there any reason that you are tired, distracted, ill, anything that would prevent you from listening to and responding to my questions?

A. No, sir.

Q. If, for whatever reason, I don't ask the question in a way that you understand it, please don't answer it. Point out to me that I've asked it incorrectly or that you don't understand it or ask me to repeat it because I will assume that if you answer my question that you understood it.

Is that a fair assumption for me?

A. That's a fair assumption.

Q. Okay. Thank you.

To prepare for your deposition today, you had earlier here in front of you

a pile of materials probably about a foot-and-a-half high.

What of that did you review to prepare for your deposition today?

A. I reviewed the medical records. I reviewed the expert disclosure, both from plaintiff and defense.

I reviewed the guidelines for the newborn nursery at Penrose Hospital.

Q. And feel free to refer to any of your records anytime you need.

A. Sure. I reviewed depositions of Dr. Corrigan, Gail O'Hare, Pamela Brooks, Steven Reich, Janet Dubrick and Ms. Stilson.

Q. Did you review Dr. Laird's deposition?

A. Yes, sir, I did.

Q. Could you get Dr. Corrigan's deposition out here in front of you. You may need it a little later on. Put a little red flag on the top of it.

Your notice of deposition has been marked as Exhibit 1, and in there, we've listed some materials that you have published, textbooks, as well as presentations you've

done.

First of all, I'd ask if those materials that are on the second page, items 7, 8, and 9, are those textbook chapters that would contain information that's relevant to the issues in this case?

A. From the standpoint that this case involves an infection, yes, they would be relevant as they talk about specifically the topic of infections.

Q. Okay.

A. Whether they have some specific issues that I'm going to testify to, I don't think that there's anything in those chapters that would be of relevance to this case.

Q. Okay. Do you have copies of those chapters in your possession?

A. I can certainly obtain those for you.

Q. Could you provide those to Mr. Buxton, and then, he can forward those to us?

A. I certainly will.

Q. All right. Thank you. I appreciate it.

If you turn to the third page,

there's a number of lectures in there, most of which I believe have to do with infectious disease topics.

Did any of those lectures address issues that are relevant to the topics in this case?

A. Yes, there are several that do.

Q. Okay. When you give these lectures, do you use Power Point presentations to illustrate your presentation?

A. Some of them are from the 1990s before Power Point became so popular. So some of them are in slide form, but the most recent ones are in Power Point or were given in Power Point presentation.

Q. Could you please for me circle the ones that you have Power Points for.

A. At the present time, I only have the Power Point presentation for 96.

Q. Okay.

A. No. 96.

Q. No. 96, and that's the impact of bacterial resistance in pediatrics?

A. Yes, sir.

Q. Okay. The 2001 presentation at

Hilton Head Island, you no longer have that Power Point?

A. I -- I may be able to retrieve it from a CD where this information was.

Q. Okay. You have a copy of the notice of deposition, don't you?

A. Yes, I do.

Q. All right. I saw it in your materials.

Would you do me the favor of looking to see in your materials if you have either 68 or 96, and then provide those to Mr. Buxton.

I presume you can e-mail them?

A. Yes, I certainly can.

Q. And then, they can be forwarded to us?

A. I certainly will.

Q. And then, we've marked this as Deposition Exhibit 2, and that's a list of your testimony in the last four years.

Is that an accurate and complete listing of your testimony under oath in the last four years?

A. As best as I was able to get that

information, this is correct.

Q. Okay. Do you think that there's cases that you may have testified in that aren't listed there?

A. It is possible.

Q. You just don't know?

A. I just don't know.

Q. Of these cases that are listed here in Exhibit 2, were any of those cases involving an alleged failure to diagnose meningitis or bacteremia slash septicemia?

A. Yes, sir.

Q. Okay. Could you put a checkmark next to those items, the testimony that involved either one of those issues.

Actually, I got a better idea. Why don't you put an "M" and an "S" to indicate whether it's meningitis or septicemia. And if both, put "both," please.

A. I have marked the ones that I recall involve meningitis or septicemia.

Q. Okay. Thank you.

(There was a discussion off the record.)

///

BY MR. TIEMEIER:

Q. Have you testified for any of the attorneys at Mr. Leventhal's office before?

A. Yes, I have.

Q. Who?

A. Ms. Brown.

Q. Anyone else?

A. No. I don't believe so.

Q. So other than the case that you had with Ms. Brown, this is only the second case that you've had with anyone at that office?

A. No, that's not correct.

Q. Okay. Have you had any other cases with Mr. Leventhal?

A. I do not recall so.

Q. Who else did you have cases with at Mr. Leventhal's office, other than Ms. Brown?

A. I've been asked to review a case for Mr. Puga.

Q. Does that case involve either septicemia or meningitis?

A. I don't believe so.

Q. Do you know a Dr. Lowell Young?

A. I know of him.
Q. Is he considered an expert in pediatric infectious disease?
MR. BUXTON: Object to form.
THE WITNESS: Dr. Young is a well-respected infectious disease specialist.
BY MR. TIEMEIER:
Q. But not in pediatric infectious disease?
A. In pediatric infectious diseases, he has a very well-recognized expertise.
Q. So you would consider him an expert in pediatric infectious disease?
A. If you would be kind enough to tell me what you mean by "expert."
Q. Sure.
A. I mean, he's a Board-certified infectious disease specialist.
Q. Sure. For example, you're an expert in pediatric infectious disease, right?
A. I consider myself, yes.
Q. You're Board-certified in pediatrics?
A. Yes.
Q. Board-certified in infectious

disease?

A. And pediatric infectious disease, yes.

Q. He is not Board-certified in pediatric infectious disease, is he?

A. I do not know.

MR. BUXTON: Objection. Foundation.

BY MR. TIEMEIER:

Q. I presume pediatric infectious disease specialists have conferences that they go to?

A. Yes, that's correct.

Q. Have you ever seen Dr. Young invited to speak at any of those conferences?

A. Yes, I have.

Q. Do you know Dr. James Todd of Denver?

A. I know his name, yes, sir.

Q. And is he considered an expert in pediatric infectious disease?

MR. BUXTON: Object to the form.

THE WITNESS: He is recognized as a pediatric infectious disease specialist.

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BY MR. TIEMEIER:

Q. He also attends those conferences you were just talking about?

A. Yes, sir.

Q. And sometimes he speaks at those, doesn't he?

A. Yes, sir.

Q. Have you ever seen him speak?

A. I do not recall seeing him speak.

Q. When I asked whether you considered him to be an expert in pediatric infectious disease, you said he was a specialist.

Do you not consider him to be a specialist above and beyond what most pediatric disease specialists have?

MR. BUXTON: Objection to foundation.

THE WITNESS: I do not know enough of him to qualify him or compare him to other ones of my peers.

I have shared patients with him, and I know he has great expertise in certain areas, in which I have consulted with him.

BY MR. TIEMEIER:

Q. And what are those areas?

A. Infections due to unusual organisms, immune system dysfunction and function of white cells. That's basically it.

Q. Did you take any notes in your review of this case?

A. No, I didn't.

Q. The materials that were here in front of you, have you reviewed all of those materials?

A. Yes, I have.

Q. And how much time did you spend reviewing those?

A. I have not kept track of my time. I would estimate it's about 16 to 20 hours.

Q. And at some point in time after reviewing those materials, did you speak with someone from Mr. Leventhal's office to relay your opinions about the case of the various defendants in this case?

A. Yes, I did.

Q. And at that time, did you have sufficient information to comment intelligently on the care of the defendants in this case?

A. Yes, I do.

Q. Did you ever have to ask for any additional information because you didn't have enough information?

A. No, I don't recall having asked for anything specific.

Q. Okay. Have you submitted a bill yet?

A. No, I have not.

Q. In looking at your materials, I saw that they sent to you a copy of your expert witness disclosure.

A. That is correct.

Q. And did you make any changes to that expert witness disclosure draft that they sent to you?

A. Yes, I did.

Q. And what changes did you make? And you can get that out, if you want, to show me.

A. If I remember correctly, I corrected the spelling of my name, my last name, and the spelling of gentamicin.

Q. Anything else?

A. Not that I recall.

Q. Does the expert witness disclosure

accurately reflect all the opinions that you hold in this case with respect to the standard of care of the defendants?

A. With respect to standard of care and causation, I believe it does.

Q. All right. Are there any opinions you hold with respect to the standard of care of the defendants or causation of Krysta Vitetta's injuries that are not included in your disclosure?

A. No, sir.

Q. How did you first learn about this case?

A. I received a call from Mr. Leventhal's office inquiring if I would be available to review this case.

Q. And what did they tell you about the case?

A. From what I can recall, they basically told me it was -- it involved a neonate who had developed Citrobacter meningitis.

Q. So before you got the records in this case, you were aware that Krysta Vitetta had developed Citrobacter meningitis?

A. I believe so is.

Q. Have you ever been sued before? And I don't mean to be insulting.

A. No, certainly. Yes, I have.

Q. And can you tell me the circumstances of that.

A. Yes, it was a lawsuit that took place during my residency, and it was the death of a child following cardiac surgery.

Q. And what was your involvement in the case?

A. I was the resident taking care of the patient in the intensive care unit.

Q. And what was the disposition of the case?

A. A summary judgment was awarded on behalf of the defendants, and no moneys were awarded.

Q. Have you been sued since that time?

A. No, I have not.

Q. Have you ever had your privileges at a hospital suspended, curtailed, or limited in any way?

A. No, sir.

Q. Have you ever had any complaints filed against you by medical boards in any state you've practiced in?

A. No, sir.

Q. Ever had any limitations or suspensions or revocations of any of your licenses by the medical board in any state you've ever practiced in?

A. No, sir.

Q. Have you ever been convicted of a felony?

A. No, sir.

Q. Okay. Got that out of the way.

When you -- would you agree with me that, knowing that Krysta Vitetta had Citrobacter meningitis when you first started looking at the records gave you an advantage over the people who were involved in Krysta Vitetta's care who didn't know the outcome when they were treating her?

MR. BUXTON: Object to form.

THE WITNESS: I would ask you to please --

BY MR. TIEMEIER:

Q. Explain?

A. -- explain what you mean by that.

Q. Be glad to.

At 2345 on May 18, when Dr. Corrigan got a phone call about Krysta Vitetta and the fever of 101.1, he did not know that she was going to go on the next day to develop meningitis?

A. That's correct.

Q. But when you looked at the records and saw that at 2345, he was called, and Krysta Vitetta had a fever of 101.1, you knew that she was going to go on in the next 24 hours to develop meningitis, true?

A. That's correct.

Q. That's a distinct advantage that a reviewing -- an expert witness reviewing the case has over the physician who actually participated in the care, true?

A. Certainly.

MR. BUXTON: Objection.

BY MR. TIEMEIER:

Q. Do you do anything -- well, first of all, have you ever read any of the articles that have been published on the influence of retrospective bias or hindsight

bias and the influence that that has on physicians whose are evaluating the care of other physicians?

A. I am aware that such data exists.

Q. Okay. And what does the data say?

MR. BUXTON: Object to foundation.

THE WITNESS: The data suggests that there is an inherited bias when you are doing a retrospective review.

BY MR. TIEMEIER:

Q. And that bias is that if there is a bad outcome, a physician is more likely -- the reviewing physician is more likely to find something to criticize about the actual physician, the treating physician's care, true?

A. I don't know that I would characterize it as you've described it.

I mean, basically, what the studies have shown is that there is an inherited bias in such a situation.

Q. Okay. When I say, "bias," that's what I meant.

What do you mean when you say, "an inherent bias"?

A. Any retrospective study or

discussion has the disadvantage that reviewer already knows what the outcome of the subject being evaluated is.

Q. Do you do anything when you evaluate a case to compensate for that inherent bias?

A. Yes, I do.

Q. Tell me what it is you do.

A. Well, I try to look at the case as if I was faced with a similar situation and what my train of thought would be under such circumstances.

Q. And that's what you did in this case?

A. Yes, sir.

Q. I'd like to talk a little bit about the specifics of this case.

In your disclosure, it was indicated, if I recall correctly, that Krysta Vitetta was considered by you to be at higher risk for infection because she was born at 36 weeks' gestation; is that true?

A. Yes, sir.

Q. Is it true that many of your professional colleagues consider, instead of

the cutoff being 37 weeks, place it at 36 weeks?

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. For an infant at higher risk for infection because of prematurity?

A. The well-recognized standard is that a premature child is at higher risk for infection, and by definition, that involves a child that is at 37 weeks of gestation.

Q. You would agree with me, though, that many of your professional colleagues have published in peer review literature articles that placed that cutoff at 36 weeks rather than 37 weeks, true?

MR. BUXTON: Object to form.

THE WITNESS: I am not aware of a specific published paper that addresses that specific time line.

BY MR. TIEMEIER:

Q. And if there were such a published paper that was published in a peer reviewed -- respected peer-reviewed journal, would you agree that that at least indicates that the cutoff point being 36 or 37 weeks is an area

in which respected pediatricians may differ in their opinion --

MR. BUXTON: Object to form, foundation.

BY MR. TIEMEIER:

Q. -- without one being wrong?

A. You're asking me a theoretical situation because I am not aware of a paper that has looked at the difference between 37 or 36 weeks of gestation.

The standard definition of prematurity is that of a child less than 37 weeks of gestation, and we know that premature babies are at increased risk for infection.

Q. Is the Journal Of Pediatrics considered a respected peer-reviewed journal?

A. It is.

Q. Do you know who Sandra Herr is?

A. No, I don't.

Q. If in October of 2001 an article was published regarding the -- and the date that was used there was 36 weeks rather than 37 weeks, would you agree that this is an issue about which respected pediatricians may

differ in their opinions?

MR. BUXTON: Object to form and foundation.

THE WITNESS: No, I do not agree with you.

I do not know the context in which this 36-week time line is being used.

I don't know if that was at the time of their study or if it was a review article that looked at different publications.

I just don't -- I'm hesitant to do that without seeing the article.

BY MR. TIEMEIER:

Q. The article was entitled "Enhanced urinalysis improves identification of febrile infants ages 60 days and younger at low risk for serious bacterial illness," and in there, they define "low risk" as including, among other things, "full term," and the definition of "full-term" was "greater than 35-6/7ths weeks of gestation, which would be 36 weeks and up.

A. Okay. And here in the context, that's the definition that they use for this particular study.

It doesn't mean that they are endorsing that being 36 weeks or older is considered a standard for definition of prematurity.

Q. Well, it was a standard for being at low risk for a serious bacterial illness?

MR. BUXTON: Objection. Foundation.

THE WITNESS: It was their standard.

BY MR. TIEMEIER:

Q. Correct. And that's what I'm saying.

Dr. Herr published this in Pediatrics, which is a well-respected, peer-reviewed journal, correct?

A. I don't know if this she published it there.

Q. Well, it was. I mean, you've not read it; I have.

But in any event, it is a well-respected journal, correct?

A. Yes. The journal is well-respected.

Q. And the Journal of Pediatrics

wouldn't publish information that they felt would be misleading or dangerous to the pediatricians who are reading it, would they?

MR. BUXTON: Object to form and foundation.

THE WITNESS: In the sense that it's written for physicians whose would understand that she's not giving a definition; she is defining what her study cohort was.

BY MR. TIEMEIER:

Q. Okay.

A. It doesn't mean that they are -- that Pediatrics or the editors of Pediatrics are endorsing that as an appropriate definition.

That is just what they use in their criteria in their center for this specific study.

Q. But the editor certainly thought the study was of sufficient import to include it in their publication, true?

MR. BUXTON: Object to foundation.

THE WITNESS: If it was published, I suspect that was the case.

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BY MR. TIEMEIER:

Q. You've edited, I know, the Red Book.

Have you edited other journals?

A. I am a reviewer for a number of journals including Pediatrics.

Q. If you saw something that you thought was just flat wrong, would you say: Yeah, I think this is appropriate, or would you think no, I don't think this is appropriate, and we shouldn't publish it as it is because it simply is wrong?

A. I certainly wouldn't publish something that I thought was wrong.

Q. In the field of pediatrics or pediatric infectious disease, there is sometimes something between respected peers where you think, for example, 37 weeks should be the cutoff date, and another of your peers would think 36 would be, true?

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. I'm just using that as an example. I'm not saying that that's a fact.

Isn't there a frequently

disagreement between pediatric infectious disease specialists?

MR. BUXTON: Object to form.

THE WITNESS: Disagreement in terms of what sense? In terms of definitions?

BY MR. TIEMEIER:

Q. Yes. In terms of definitions like what would be an infant considered an infant at low risk or higher risk for infections, which is what we're talking about in this case.

A. This article does not address what is considered low risk and high risk.

This articles addresses the value of urinalysis in a group of patients that they define as low risk by virtue of the characteristics that you have described.

Q. And they called full term as being greater than 35 and 6, 7 weeks, which you would say is premature, not full term, true?

A. That's correct.

Q. But you think that if that's what they meant by "full term," that they're wrong; that it's not 36 weeks, true?

MR. BUXTON: Object to form.

THE WITNESS: Again, they are not trying to define what "full term" is.

They're trying to define what their requirements to be included in the study were.

The purpose of describing the cohort that was studied is not to define what is considered prematurity or not. They're just trying to describe what their group that they look at was.

BY MR. TIEMEIER:

Q. Do I understand correctly that you have not read this article?

A. That's correct.

Q. Then how do you know what it is they're trying to define?

MR. BUXTON: Object to form.

THE WITNESS: Very simple, because of the name of the article. It clearly is not a review article to try to define what "prematurity" or "low risk" is.

BY MR. TIEMEIER:

Q. The issue we're discussing in this case or one of the issues we're discussing in this case in which you mentioned in your

disclosure is that Krysta, because she is preterm, in your opinion, less than 37 weeks, is at a higher risk for infection, bacterial infection, true?

A. That's correct.

Q. And if in this article, they determine that prematurity for purposes of being a risk factor for bacterial infection was 36 weeks or less -- or, actually, less than 36 weeks, that would be different than your definition, true?

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. And I'm not asking you to agree because you've not read the article.

But if that is what they're defining it as, that would be a disagreement between yourself and Dr. Herr, correct?

MR. BUXTON: Object to form.

THE WITNESS: Without having access to that article, I cannot answer your question.

BY MR. TIEMEIER:

Q. But you can answer a hypothetical question, and the answer to that would be,

yes, it's true, correct --

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. If what I'm saying is correct, that that is how they define "full term" or "premature," rather, for purposes of stratifying risk for infants vis-a-vis bacterial infection. True?

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. I'm not asking you to say that I am correct.

I am just saying that, if I am correct, you would agree that you have a different opinion than Dr. Herr, true?

A. Again, you're asking me to say that that's her opinion.

Q. No, I'm not.

I'm saying that if that is her opinion, that would be a different opinion than yours, true?

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. That's all I'm asking.

A. Yes, would it be.

Q. Okay. What is it that happens -- for example, did you get out a gestational age calculator to determine exactly how many weeks and days Krysta was in terms of her gestation?

A. No, sir.

Q. I did, and it came out to 36 weeks and 5 days.

So she is two days short of your definition of "premature," correct?

A. Yes, sir.

Q. Assuming that to be the case for the following questions, what is it that would happen in those next two days to Krysta Vitetta that would make her go from being low risk -- or, go from being a high risk to a low risk with respect to age?

A. When the large studies have been done looking at risk factors for infection in newborns, there is clearly an increased incidence in those that are less than 37 weeks of gestation.

Now, whether that is the result of maternal antibody or function of the white cells or immaturity of the immune system, we

don't know which one is the main factor for that.

But we know that the immune system of a premature baby is less functional than one at term.

Q. Okay. So it could be a number of factors that are affecting this change from premature to mature, correct?

A. That's correct.

Q. In terms of the immune system?

A. Yes, sir.

Q. Isn't it true that 37 weeks is a line that has been selected that some infants may mature more quickly with respect to their immune system; some infants may mature more slowly with respect to their immune system; but 37 weeks is a guideline that's given to pediatricians to use?

A. Yes, sir.

Q. Is there any way to tell in looking at an individual baby after it's born whether it has indicia of a compromised immune system?

A. Not by a regular newborn exam.

Q. What tests would you want to rely

on to determine whether an infant had a compromised immune system, either tests or clinical observations, reaction to external forces, whatever?

A. It would require some very intensive immune evaluation that would require blood testing and testing of function of numerous components of the immune system to determine if he or she is immunocompetent or immunocompromised.

Q. Putting the immune system aside and looking just at developmental milestones for the gestational infant, a premature infant is more likely to have glucose abnormalities than a mature infant, true?

A. Yes, sir.

Q. Did Krysta Vitetta have any glucose abnormalities?

A. No, sir.

Q. Lung development is also something that a premature infant will lag behind in and perhaps have respiratory problems, whereas, a mature neonate, fully-developed, not premature would have, true?

A. Yes, sir.

Q. And did Krysta have any lung abnormalities?

A. No, sir.

Q. Did you see anything in the way Krysta reacted to the Citrobacter infection that caused you to think that her immune system was compromised in terms of its maturity?

MR. BUXTON: Object to form.

THE WITNESS: Other than the fact that we know she was born prematurely, no, sir.

BY MR. TIEMEIER:

Q. Is there something that you would see, either clinically or from a laboratory basis, that would happen to an infant who had a compromised immune system with a Citrobacter infection versus a fully developed immune system with a Citrobacter infection? Is there some difference you'd expect to see?

A. Not in a clinical setting.

Q. How about laboratory? CBAs?

A. It's possible that some abnormalities would be more pronounced in a preterm infant than in a term infant.

Q. And did you see that in Krysta Vitetta's reaction to her Citrobacter infection?

A. No, because I don't have the opportunity of seeing what her reaction would have been if she was term.

Q. What would you be looking for to distinguish between the two?

A. I wouldn't -- I wouldn't do a specific test to look for that.

You asked me if there was a way. You know, there is, but I wouldn't be looking for anything in particular.

Q. But you've seen infants who have -- who are premature, and you've seen how they react to a bacterial infection, and you've seen infants who are fully mature in terms of their gestational development and how they react to a bacterial -- the same bacterial infection, correct?

A. Yes, sir.

Q. In what places would you look, the white blood cell count, the platelet count, the inflammatory -- some inflammatory responses, CIE?

Where would you be looking where you ordinarily would see a difference between those two groups?

A. You would see a difference in the blood counts, specifically the white count and the response of the white count to infection.

Q. What would the difference be between a mature and an immature in terms of the white blood count?

A. Well, the white blood count in the immature child is less likely to rise and is also more likely to be depleted as the infection progresses.

Q. In any neonate, though, even if they're mature -- and when I say neonate, I'm talking about someone Krysta's age, four or five years old -- the white blood cell count is going to go down significantly in response to an infection, will it not, more often than not?

A. You mentioned four or five days?

Q. Yes, four or five days.

A. It is not unusual that they will have a drop in the white count.

Q. It's not only not unusual; it's

more probable, more likely than not, true?

A. In the setting of sepsis, yes.

Q. Speaking of white blood cell counts, Krysta's CBC at 0005 on May 19th, just after midnight, the first one that was drawn, that was normal, was it not?

A. That is my recollection, yes, sir.

Q. You didn't see anything abnormal about it?

A. Allow me for a second.

Q. Sure. Go right ahead.

Like I said, feel free to review the records if you need to.

A. Okay. That is correct.

Q. You don't see a left shift there, do you?

A. No, sir.

Q. I'm going to ask you for a couple of definitions here, three words, bacteremia, septicemia, and sepsis.

How do you define bacteremia?

A. Bacteremia is the presence of bacteria in the bloodstream.

Q. And septicemia is what?

A. Septicemia is an old term that

indicates that the presence of such bacteria is also causing symptoms.

Q. So it's bacteremia that's causing symptoms?

A. Either bacteremia or a viral infection that is causing symptoms.

Q. And does it mean that the pathogen is in the bloodstream, septicemia?

A. No. Bacteremia is that the pathogen is in the bloodstream.

Q. But septicemia may or may not be in the bloodstream, but it's causing symptoms?

A. Well, the old definition of septicemia is that it's in the bloodstream.

Q. And is there a new definition for septicemia, or is that word just not used anymore?

A. We do not use that really. Instead, we use sepsis or sepsis syndrome.

Q. What does sepsis mean? What is the definition?

A. Sepsis is an alteration in vital signs and function as a result of an infection.

Q. And again, the infection can be in

the bloodstream or localized?

A. That's correct.

Q. What is a localized infection?

A. Well, a localized infection is an infection that is limited to one specific organ.

Q. Not necessarily in the bloodstream, though?

A. That's correct.

Q. Is it harder for neonates to localize an infection than mature infants?

A. In general terms, the more premature that the child is, the more likely that the infection will disseminate rather than stay in a specific organ.

Q. If a physician were to say that a neonate like Krysta Vitetta, in terms of gestational age and size, would not be able to localize an infection, would you agree or not agree with that person?

MR. BUXTON: Object to foundation.

THE WITNESS: That would be too broad of a question to be able to answer.

BY MR. TIEMEIER:

Q. Well, you're familiar with Krysta

Vitetta, are you not?

A. Yes, I am.

Q. Okay. Do you think she is able or not able to localize an infection?

A. It defends what infection you're asking.

Q. Citrobacter.

A. Citrobacter, by its nature, is an infection that is rarely localized unless it's introduced by an external vehicle.

Q. Meaning? "External vehicle" meaning?

A. Meaning a needle, a piece of sharp metal.

Q. Okay.

A. That's about the only time that we see this infection as being localized.

Q. Did you have an opinion as to how the Citrobacter was introduced into Krysta Vitetta's system? And I mean other than where it's supposed to be.

A. Yes.

Q. And what is your opinion?

A. Very likely, this infection was acquired in the peripartum period by spread

from the maternal vaginal tract to the child's bloodstream by one of many different possible entry sites.

Q. Like mouth, nose, eyes, ears?

A. Umbilical stump.

Q. And by peripartum, you mean at the time of birth?

A. Around the time of birth. Either a few hours before to a few hours after.

Q. And do you believe that, essentially, the infection went directly to her bloodstream, it didn't localize?

A. We have no evidence that her infection localized.

Q. Let me back up just one step.

You said it's very likely in your previous response.

Do you think it's probable, and by "probable," I mean more likely than not, the legal term that we all use and that you used before?

A. Yes.

Q. And when you say, "We have no evidence that her infection localized," again, that's an opinion that you hold to a

probability, a reasonable degree of medical probability?

A. Yes, sir.

Q. Okay. Now, once the Citrobacter -- first of all, tell me about your experience in managing neonates who have a Citrobacter infection.

A. I have treated a number of neonates with Citrobacter infections.

Q. Okay. Do you know how many?

A. No, sir.

Q. Just so you know, most of what we've been hearing is maybe one or two, some of them up to perhaps five or half a dozen.

Do you think you've seen more than half a dozen?

A. No, sir.

Q. Somewhere between maybe one and five?

A. Yes, sir.

Q. Do you remember specifically any of those cases or their outcomes?

A. Yes, I do.

Q. Okay. Why don't you tell me, just starting with the first case you remember,

and tell me how the infection came about and the course of the infant and the outcome and intervention as well.

A. Yes. There was a particular case that I recall was a newborn who developed a fever while in the newborn nursery, was probably improperly evaluated and placed on an antibiotic regimen.

Q. And what was the antibiotic regimen?

A. Ampicillin and cefotaxime.

Q. Okay.

A. He had CSF parameters consistent with early meningitis and was treated for 21 days with no neurologic sequela.

Q. So the sepsis had already been introduced into the -- excuse me -- the Citrobacter had already been introduced into the meninges by the time the antibiotic regimen was started?

A. Yes, sir.

Q. Any other cases that you recall?

A. Not that I recall the specifics of, no.

Q. Okay. How long ago did this case

you've just discussed happen?

A. Five years ago.

Q. And were you the one who made the diagnosis?

A. No, sir.

Q. Were you called in to consult on the case?

A. Yes, sir.

Q. At what point in the case were you called in to consult?

A. I was called in to consult when the CSF parameters indicated the presence of meningitis.

Q. Do you know how long that was after the neonate's first notice of a fever?

A. No, sir.

Q. You don't know whether it was hours or days?

A. No, sir.

Q. When a neonate has sepsis from a Citrobacter like this one did, what happens to it? Does it just get worse unless there's some intervention, unless the doctors step in and do something?

A. The natural course in a Citrobacter

infection is for progression of the disease without intervention.

Q. Okay. So if someone doesn't step in to provide something to the neonate like, in this case, it was Ampicillin and cefotaxime, then that sepsis is going to get worse and worse and worse and then perhaps develop into meningitis?

A. Yes, sir.

MR. BUXTON: When you say, "in this case"?

MR. TIEMEIER: The case that he just described to us.

MR. BUXTON: Okay.

MR. TIEMEIER: Sorry. I wasn't clear. I apologize.

THE WITNESS: Yes, sir.

BY MR. TIEMEIER:

Q. Did you understand that when I asked the question?

A. Yes, sir, I did.

Q. Okay. Is Ampicillin and gentamicin also an appropriate administration of antibiotics for a Citrobacter diversus or koseri, whichever term you prefer to use for

an infection in a neonate?

A. It depends on the location of the infection.

Q. Tell me what you mean by that.

A. If the infection is in the urinary tract or the bloodstream, Ampicillin and gentamicin is a reasonable empiric choice until you identify the organism.

Q. And then, once the organism is identified, what should be done?

And when I say, "should," I mean to comply with the standard of care.

A. Well, in the theoretical situation that we are discussing, it would be to switch to an antibiotic with better activity against this organism, particularly a third-generation cephalosporin, such as cefotaxime.

Q. Is Citrobacter koseri -- is that the term you used?

A. Yes, sir.

Q. Is Citrobacter koseri more susceptible to a cefotaxime than to gentamicin?

A. No, not necessarily.

Q. I must have misunderstood your

previous answer, then.

I thought you said that it was more susceptible.

A. I said more appropriate.

Q. More appropriate. In what way is cefotaxime more appropriate?

A. I was referring in comparison to ampicillin.

Q. Oh, I see. I'm sorry.

In terms of gentamicin and cefotaxime, are they relatively equivalent in terms of the sensitivity of Citrobacter koseri to those antibiotics?

A. If you have a bacteria that is susceptible to cefotaxime and gentamicin in a tissue where they both can reach good levels, there's no advantage of one versus the other.

Q. What is a normal respiratory rate for a four- or five-day infant?

A. Usually a respiratory rate of less than 40.

Q. Is there a rate? Because I imagine 1 or 2 would probably be abnormal.

A. Yes, sir.

Q. Okay. What is the range?

A. 20 to 40 breaths per minute.
Q. Where did you get that number from?
A. It's just my personal knowledge.
Q. Have you ever heard of a range that goes from 20 to 60 as being normal?
A. Yes, sir.
Q. Okay. So you use 40, but you're aware that other pediatricians will use up to 60?
A. That's correct.
Q. There is nothing wrong with that; that's not below the standard of care, is it?
A. It depends on the setting, but if you're just talking about that in general terms, that is correct.
Q. Yes. Just a four- or five-day-old neonate.
A. And again, it depends on in the context of what this child's other symptoms may be.

But if we are just talking about what would be considered a normal range for vital signs, that is correct.

Q. 20 to 60?

A. Yes, sir.

Q. What is a normal range for heart rate in a four- or five-day-old neonate?

A. 120 to 160.

Q. What are the types of things that will affect the respiratory rate in a four- or five-day-old neonate?

A. There are numerous reasons why the respiratory rate can be abnormal in a child that age.

Q. Such as? Let's talk about, first, what are the nonpathologic things that could affect a respiratory rate?

For example, I've heard that crying can affect a respiratory rate.

A. Certainly, when a child is crying, when a child has an elevated temperature.

Q. Okay. I said nonpathologic.

A. Well, elevated temperature can be a nonpathologic situation. It can be related to the warmer that the child is in, for example.

Q. Okay.

A. I guess that would be one, crying.

Q. I've heard that having a bowel

movement can change the respiratory rate.

Is that consistent with your experience?

A. That's possible.

Q. Can all of those things that you've just mentioned all affect the heart rate?

A. Yes, it can.

Q. Is a transient change into the heart rate, and by transient, I mean on just one occasion, is that considered to be something that has to be investigated?

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. And if you need an example, I can give you one.

A. It depends on the setting that you're describing such a transient change.

Q. Well, let's say that the infant has had respirations of 40 or 43 or 42 regularly, and then, there is one episode where it's up over 60 but the child doesn't have any other symptoms, is not febrile, does not have an abnormal heart rate, is not desaturated.

Would you think that isolated change -- and then, it goes back down to 40. Would you think that isolated change needs to be investigated?

A. In the theoretical situation that you have just described, without any knowledge, no.

Q. Same question with a transiently elevated heart rate, one that's just slightly above normal, say 162 instead of 159.

A. In a normal term infant, no.

Q. You mentioned a while ago that an infant can develop a fever, an elevated temperature.

First of all, what is your definition of "fever"? And I'd prefer if you'd use Fahrenheit. It's just easier for me to relate to.

A. Yes. For the purposes of evaluating neonates for possible infection, we use a temperature of 100.4, although, some newborn units have other definitions as to what is the case, as in the particular case.

Q. But at Baylor, you use 100.4, don't you?

A. Yes, sir.

Q. Now I forgot where I was going. Sorry. Give me just a second.

You said that environmental factors that are nonpathologic can cause an infant to have a fever, true?

A. To have -- there are environmental factors that can cause elevation of temperature.

Q. One of those things would be if an infant is overbundled, correct?

A. Yes, sir.

Q. And the appropriate intervention if the physician believes that the temperature is due to -- or, the fever is due to overbundling is to unbundle the infant and see if the temperature comes down, correct?

A. The appropriate intervention is to do an exam on this child to make sure there are not other factors, and if it's determined that the most likely reason is the overbundling, it would be appropriate to do so.

Q. Okay. And if the temperature does come down, then it's reasonable to assume

that the fever was caused by environmental factors as opposed to -- and there's no other intervention, no antipyretics, it's reasonable for the physician to assume that the temperature was due to environmental factors in the circumstance that we've just described?

A. In the theoretical circumstance that we've just described, that's correct.

Q. Now, in this case, it's your opinion, is it not, that that was not a reasonable assumption for Dr. Corrigan to make?

A. That is correct.

Q. Okay. And why is it, in your opinion, that it was not a reasonable assumption for him to make that this fever was due to environmental factors?

A. Because in this case, there were other abnormalities that needed to be considered as potential sources for the fever.

Q. And what are those other abnormal amounts?

A. The fact that this was a premature baby.

Q. Anything else?

A. The fact that she was small for gestational age.
Q. Anything else?
A. The fact that she had a distended abdomen and abnormal heart rate.
Q. Anything else?
A. No, sir.
Q. Okay.
A. I apologize. There was irritability.
Q. Irritability?
A. Yes, sir.
Q. If neonate Nurse Practitioner Dubrick described the infant as, I think it was irritable and due to feed, do sometimes nenonates act irritable if they're hungry?
MR. BUXTON: Object to form.
THE WITNESS: Yes, they can.
BY MR. TIEMEIER:
Q. And if the infant feeds and is no longer acting irritable, would that suggest that it was irritable because it was hungry?
A. It's a possibility.
Q. It's a probability, isn't it?
MR. BUXTON: Object to form.

THE WITNESS: I don't know that I could quantify to that extent.

BY MR. TIEMEIER:

Q. Let me ask it a different way.

Would it be reasonable to assume that if an infant is acting fussy because it's due to feed, you give it food, it's not fussy anymore, that the reason it was being fussy is because it was hungry?

A. In such a theoretical situation, yes.

Q. And with respect to the distended abdomen, would you agree that there was nothing on the x-ray, the KUB that was done on Krysta Vitetta on the 19th of May, or anytime thereafter, that indicated that she had anything other than a normal gas in her bowels?

A. I would agree with you that the x-ray indicated a normal gas pattern.

Q. And no radiologist ever looked at any of her KUB films and noted an air fluid level that would suggest ileus, true?

A. That's correct.

Q. And Krysta was feeding and, through

the morning hours of May 19, having bowel movements and peeing appropriately, true?

A. Yes, sir.

Q. And that would also suggest that she does not have ileus at that time, true?

A. That's true.

Q. And did you see anything from the testing that was done in the early morning hours of May 18th -- excuse me -- right around midnight of May 18-May 19, and then, at the time Dr. Corrigan examined her the morning of May 19 that indicated that the distended abdomen was anything other than just the baby has gas in her colon just like babies sometimes get gas in their colon?

A. No. I disagree with your statement.

Q. Okay. What is it that you saw?

A. I saw that the patient had a fever, had an elevated heart rate, had irritability, which in the context of prematurity should raise the possibility that the distended abdomen is indicative of an infectious process.

Q. How does an infection cause a

distended abdomen?

A. Probably by release of cytokines and/or inflammatory mediators.

Q. And how do the inflammatory mediators cause the abdomen to distend?

A. The inflammatory mediators lead to alterations in blood perfusion to the GI tract, which is frequently reflected as distended abdomen.

Q. That changes in perfusion causes ileus, and that's what causes a distended abdomen, true?

A. Ileus is just one of the most severe manifestations of an infection.

Q. If it's not ileus, how is change in perfusion of the gut going to make the abdomen distend?

I mean, mechanically, how does it happen?

A. Mechanically, it happens because the gut is getting less oxygen than what it's supposed to be getting.

Q. That just means it has less oxygen.

How mechanically does it cause it

to become larger in circumference?

A. That causes decrease peristalsis or movement of the gut, which leads to distention of the walls of the bowel and may be reflected as an increase in the size of the abdomen.

Q. And that, again, is what you're describing as ileus, and I thought we agreed that she didn't have ileus, true?

MR. BUXTON: Object to form.

THE WITNESS: No. What I'm describing is just the changes that occur.

Ileus is the ultimate, is the extreme, is the situation where the paralysis of the gut is so extreme that it's now causing an air fluid level in complete dysfunction of the gut.

BY MR. TIEMEIER:

Q. Looking at the intake and output levels, what evidence do you have that Krysta had a decreased bowel motility?

A. That is not where I would look for such an indication.

Q. Where would you look?

A. I would look at my physical exam

and determine if she does, indeed, have abdominal distention or not.

Q. And if the physical exam showed that she had a soft abdomen, that would be a benign finding, true?

A. Yes, sir.

Q. And if the distention was going down, that would indicate that she probably doesn't have decreased motility, that she just had transient gas, true?

A. It may indicate so.

Q. Well, it probably would indicate that, true?

MR. BUXTON: Object to form.

THE WITNESS: No.

BY MR. TIEMEIER:

Q. Okay.

A. We do know that in patients who have a systemic infection, whether it's the flu or a more severe infection, like Citrobacter, that there is abnormality in the perfusion and function of the gut by -- mediated by the presence of cytokines.

Q. And as that sepsis progresses, then there will be an increased release of those

mediators and the inflammation and peristalsis -- if inflammation will increase, and the peristalsis will decrease, true?

A. It may or it may not.

Q. Well, it probably will?

A. No, sir.

MR. BUXTON: Object to form.

THE WITNESS: No, sir. In fact --

BY MR. TIEMEIER:

Q. Well, if it probably won't, then what you're saying is that the peristalsis will probably decrease as the baby becomes more and more infected? Because it's got to be one or the other.

A. No, it doesn't.

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. Well, if it's not increasing, then it's decreasing, right? And you just said it probably will not increase.

So are you saying it probably will decrease?

A. No.

MR. BUXTON: Object to form.

THE WITNESS: It could stay the same. It doesn't have to move one way or the other. It could stay the same.

BY MR. TIEMEIER:

Q. Why is it staying the same?

A. Well, because there's only so much inflammation that has occurred.

I mean, not every patient that has Citrobacter infection will get ileus, just like not every patient who has Citrobacter infection will have a progressive abdominal distention. I mean, there are patients who may just have a degree, and it stops at that point.

Q. Even though the sepsis is worsening?

A. Even though the sepsis is worsening because the sepsis is not directly affecting the inflammation of the gut.

Q. The KUBs never were read as showing any inflammation of the bowel, were they?

A. The KUBs are only helpful in some types of inflammation of the bowel; specifically, ileus and necrotizine and/or

colitis.

Q. So unless it's a complete ileus, the KUB is not going to show any evidence of inflammation of the bowel wall?

A. That's correct.

MR. BUXTON: Can we take a break?

MR. TIEMEIER: Yes, sure.

(There was a recess taken.)

MR. TIEMEIER: Back on the record, please.

BY MR. TIEMEIER:

Q. You mentioned that Krysta Vitetta had an abnormal heart rate.

When did she have an abnormal heart rate?

A. She had an abnormal heart rate at 2145 on May 15th.

Q. 2145 on May 15?

A. That's correct.

Q. Okay. That was three days before Dr. Corrigan was called, correct?

A. I'm sorry. That's the first record of an abnormal heart rate.

Q. Okay.

A. There is one at 8:00 a.m. on 5-17.

Q. And at that time, did she have any sign or symptom of infection?

A. No, she did not.

Q. And how about the 5-15 entry, does she have any sign or symptom of an infection at that time?

A. No, she did not.

Q. Okay. What is the next one?

MR. BUXTON: What was the entry on 5-15? I'm sorry.

THE WITNESS: On 5-15, it was 162.

MR. BUXTON: Thank you.

MR. JAUDON: And 5-17?

THE WITNESS: 164.

MR. TIEMEIER: 164.

THE WITNESS: Then there is the record of an abnormal heart rate at 2340 on the 18th.

BY MR. TIEMEIER:

Q. Okay.

A. At which time, she had evidence of infection.

Q. And that evidence of infection would be the temperature of 101.1?

A. Temperature of 101.1, the abdominal

distention, and the irritability.

Q. How does infection cause an abnormal heart rate?

A. It can be by a number of mechanisms.

Just simply by causing an elevation in temperature, that can lead to increased heart rate.

In addition, an infection places an increased demand on the heart so that the heart has to pump faster to deliver oxygen to infected tissues.

Q. Did the capillaries dilate, or what happens that causes the increased demand?

A. That could be one of the mechanisms by which there is an increase in demand, but in general terms, it's just an increased need for perfusion to tissue.

Q. But that has to be manifest mechanically somehow for the heart to sense that there's a need to increase the pressure, true?

A. That's correct.

Q. So is that what happened is the capillaries dilate in the area of the

infection?

A. Not necessarily in the area of the infection.

The capillaries can either dilate or constrict, depending on the shift that the body does to improve perfusion to one organ at the expense of decreasing perfusions with others.

Q. And how does the body react to a Citrobacter infection sepsis in the bloodstream? In terms of the demand on the heart? How does that change the demand on the heart? What happens to the body?

A. When you have a bacteremia with an organism like Citrobacter, you have vasodilation that is sensed as a decrease in volume within blood vessels, which, in turn, sends a signal to the heart to increase the output.

Q. A fever alone can cause that, can't it?

A. A fever alone can cause increased heart rate, yes.

Q. Even if that fever is the result of an environmental cause, that will cause

the capillaries at the skin to dilate, to throw off excess heat, and that will send a trigger to the heart to start beating faster, right?

A. Yes, sir.

Q. You mentioned that Krysta was small for gestational age, true?

A. Yes, sir.

Q. What would be normal for gestational age for her?

Well, first of all, what was her weight?

A. All right. Her weight was 1982 grams.

Q. And that would be normal? 2,000 or above?

A. We have graphs that give you what would be considered normal -- or, normal range, depending on the weeks of gestation the child is.

Q. And Krysta has such a graph, doesn't she?

A. Yes, she does.

Q. And where does she fall in terms of her weight on that graph?

A. That graph?
Q. I've got it here if you want to look at it. This is right here.
A. Krysta falls on the 10th percentile.
Q. So she's right at the point where normal becomes small, true?
A. That's correct.
Q. So she is borderline?
A. Yes, sir.
Q. She would actually have to be below that line to be small for gestational age, right?
A. Yes, sir.
Q. And in the graph, they actually have a little dot above that line, don't they?
A. In that graph that you just showed me, they do.
Q. Okay. So in that respect, the folks that are taking care of Krysta are being extra cautious by saying she's small for gestational age even though she's actually a little bit above that tenth percentile line, correct?

A. Yes, sir.

MR. BUXTON: Object to foundation.

THE WITNESS: Yes, sir.

BY MR. TIEMEIER:

Q. How does being small for gestational age affect the ability of Krysta Vitetta to respond to an infection?

A. In general terms, the fact that a child is small for gestational age may indicate that the immune system, as well as other organs, may not be fully developed.

Q. Now, again, going back to what we went through before on the prematurity, did you see anything in Krysta's, either her laboratory tests or any of the clinical observations of the nurses or the physical examinations by the physicians, that indicated to you that she had any of the adverse sequela of being small for gestational age?

A. No, I did not.

Q. Did you see anything in Dr. Corrigan's 9:00 a.m. note on May 19 that indicated that Krysta Vitetta was abnormal? Just taking that alone.

It's actually not a timed note.

It's either 8:00 or 9:00, we're not quite sure which.

MR. BUXTON: I've got an objection to form.

THE WITNESS: Yes, there is an indication in this note that there were abnormalities.

MR. TIEMEIER: Okay. Let me see if I asked the question the way I wanted to.

BY MR. TIEMEIER:

Q. Okay. What do you see?

A. The patient had had a temperature elevation to 101, and she had distention of the colon with air.

Those would be the notations that he has that are indicating that he had noticed an abnormality.

Q. And the rest of the physical examination, in terms of his examination of her abdomen, of her organ systems, of her heart, all that was normal, true?

A. There is no notes describing the heart exam.

Q. RRR means regular rate and rhythm, true?

A. Yes, but I --

Q. If she was tachypneic, that would be where he would be entering that, true?

A. If she was tachypneic, he would have entered on the lung exam.

Q. I'm sorry. Tachycardic.

A. Assuming that what it says here is "RRR," that's where he would have indicated such a finding.

Q. And regular rate and rhythm means just that, that her heart rate is regular; it's not abnormal, true?

A. That's correct.

Q. And the rhythm is also normal, true?

A. That's correct.

Q. And the temperature of 101.1, he indicates on there that the temperature came down with unbundling with pyrectics, true?

A. Yes, sir.

Q. Again, I'd like you to divorce yourself of your knowledge of the outcome in this case.

That would ordinarily suggest to you that the cause of that was environmental,

true?

MR. BUXTON: Object to form.

THE WITNESS: No, that would not necessarily indicate that.

BY MR. TIEMEIER:

Q. Why not?

A. Because we know that there are a number of reasons why the temperature can fluctuate that are not environmental in cause.

Q. Did that indicate that the temperature fluctuated or that the temperature came down to a normal temperature?

MR. BUXTON: Object to form.

THE WITNESS: This note indicates that the temperature had gone down to 99.9.

BY MR. TIEMEIER:

Q. Okay. That was the first reading. Do you remember what the second reading was?

A. I can get it right away.

Q. Okay.

A. 99.4.

Q. And then, what was the temperature when Dr. Corrigan examined Krysta?

A. He did not record the temperature at that time.

Q. The nurses did, though. Can you look in the nursing notes and see?

A. I can see --

Q. It's not on that page. It's on that page.

Do you see the note down there, it says, "Dr. Corrigan in"?

A. There is no temperature recorded at the time that Dr. Corrigan was there.

Q. What is the temperature immediately before he got there? I think it's 8:45, and the nurse indicates he was there at 9:00.

MR. BUXTON: Object to form.

THE WITNESS: It was 98.8.

BY MR. TIEMEIER:

Q. You'd say that's a normal temperature, wouldn't you?

A. Yes, sir.

Q. So the temperature has come down to normal with no invertention whatsoever by the physician, in terms of antipyrectics or antibiotics, true?

A. Yes, sir.

Q. And the only intervention was unbundling, true?

MR. BUXTON: Object to form.

THE WITNESS: That's true.

BY MR. TIEMEIER:

Q. That ordinarily would suggest to you that the cause of the fever was environmental, overunbundling, true?

A. No, sir.

Q. Why not?

A. Because, as I have mentioned, there are numerous reasons why the temperature can go back to normal that may not be related to a change in the environment.

Q. Are you saying that if Krysta Vitetta has a Citrobacter bacteremia that is causing an inflammatory response that -- and that bacteremia is worsening over time that it's normal for her temperature to come down to a normal temperature in that circumstance?

A. I am saying that that's exactly what happened in this case.

Q. Okay, but you wouldn't expect that to happen, would you? You would expect that if Krysta has a Citrobacter infection and that that bacteremia infection is worsening over the course of eight or nine hours that

her temperature would either stay high as a fever or fluctuate at an above-normal range, true?

A. No, sir.

Q. Why not?

A. Because fever is just one of the responses to infection, and it's not a direct correlation indicator.

In other words, an infection, just because the temperature continues to go up doesn't indicate that the infection is getting worse.

By the same token, if the temperature comes down, that doesn't necessarily mean that the infection is improving.

Q. Okay. Well --

A. This is -- it's a vital sign that is just one of the indicators of inflammation. But there could be a number of reasons why that change occurred.

It's not only reflected at that point, but there's other times where you see that her temperature fluctuated from abnormal to normal.

Q. True, but that's after Dr. Corrigan examined her, and right now, we're talking about the 9:00 examination, not 1:30 in the afternoon. Okay?

A. That is correct. But I'm -- again, using that as an example to illustrate that this is not unusual to see changes in temperature from abnormal to normal.

Q. But that afternoon, it never came down to 98.8, did it?

A. It came down to 99.3, which is still within normal range.

Q. It didn't come down to 98.8, did it?

A. That's correct.

Q. Now, the reason that an infant gets a fever is because the bacteria in the bloodstream is causing a release, is causing cytokines to release what?

A. The bacteria is causing an inflammatory reaction that is mediated by cytokines, and cytokines are what is responsible for the fever.

Q. So it's not the inflammation that causes the fever; it's the cytokines are

reacting to the inflammation, and they are releasing factors in the blood that cause the fever; is that right?

A. That is correct. And cytokines are part of inflammation.

Q. So the bacteria is growing in Krysta's bloodstream as time goes on, true? It's multiplying?

A. Yes, sir.

Q. And because there's no intervention, it's multiplying at what you call a logarithmic rate?

A. That's a reasonable assumption.

Q. In other words, it's not just doubling; it's like quadrupling and then times 16 and then times hundreds because each bacteria is multiplying, right?

Isn't that how bacteria multiplies?

A. Yes, but that's not what is happening in real life because she does have an immune system that is keeping things under check.

The infection is not going completely unchecked. There are certain processes that are occurring that are keeping

it from being in that logarithmic phase that you're describing.

Q. Did you say earlier that Krysta had a compromised immune system or did not have a compromised immune system?

A. I said I cannot tell you if she did or not.

Q. In your opinion, she was premature, right?

A. That's correct.

Q. And one of the things you said about premature infants is that they are likely, and certainly as an infectious disease specialist, you do have to consider that they have a compromised immune system, correct?

A. By definition, a premature infant has a compromised immune system.

Q. And same with small for gestational age, true?

A. No, not necessarily.

Q. Okay. So a baby could be small for gestational age, and that doesn't necessarily mean that they're at a higher risk for infection?

A. That's correct.

Q. So Krysta is premature, in your opinion, and she's got Citrobacter diversus. Citrobacter is a very aggressive bacteria, is it not?

A. Yes, sir.

Q. It tends to overwhelm a neonate's antibody response?

A. In general terms, it does.

Q. And it's more likely to go to the meninges?

A. It's a type of infection that has a predilection for the meninges.

Q. How many Citrobacter bacteria does it take to cause meningitis? How many have to cross from the bloodstream, have to cross the blood brain barrier and get into the meninges to cause a meningitis?

A. I don't know that anybody could define that. It depends how immunocompetent the patient is.

Q. How about a single bacteria, is that a reasonable definition of meningitis, if one bacteria causes the blood brain barrier and gets in the meninges?

A. That would be very unlikely.

Q. You don't think that's a reasonable definition of Citrobacter meningitis, when one bacteria crosses the blood brain barrier?

A. I don't know that that's the definition of meningitis. I would not say that that's the definition of meningitis.

Q. When do you believe that Krysta Vitetta first had bacteremia? At what point in time?

A. She had bacteremia on the evening of May 18.

Q. At what time, if you can tell me?

A. Well, we know for sure that -- my opinion, she had bacteremia around the time that she developed a fever on the late hours of May 18th.

Q. And was a blood culture drawn shortly after that?

A. Yes, it was.

Q. And that blood culture showed no growth after three days?

A. That's correct.

Q. Would you agree that although blood cultures are not 100 percent effective in showing the existence of bacteria in the

bloodstream, that more often than not, they do?

MR. BUXTON: Object to form.

THE WITNESS: If the bacteria is present in the bloodstream, the blood culture is a reliable indicator in most cases.

BY MR. TIEMEIER:

Q. 70 to 80 percent?

A. Yes, sir.

Q. And why do you think, then, that Krysta probably had bacteremia if her blood culture was negative?

A. Because she had clinical evidence of infection at that time, which continued to progress as the hours and days went by and which indicates to me that she was already infected at the time.

Q. And the clinical evidence that you were just referring to would be the abnormalities we discussed earlier, those being premature, small for gestational age, distended abdomen, abnormal heart rate, and irritability, correct?

A. Yes, that's correct.

Q. And I didn't mention fever, but

that would be included in there too, right?

A. Yes, sir.

Q. Okay. When do you think -- well, let me just ask you this.

If a pediatrician thought that, based on the results of the blood culture that Krysta did not have an infection when you think she did late in the evening of the 18th, would you say that that pediatrician would be wrong, or is this just an area where reasonable experts can differ?

MR. BUXTON: Object to form.

THE WITNESS: Well, you must be asking me a theoretical situation because, at the time, they did not have the results of the blood cultures.

BY MR. TIEMEIER:

Q. True. So getting back to my question.

A. So getting back to the question, if a pediatrician uses a blood culture to determine if a patient is infected or not, that would be an appropriate assumption.

Q. Inappropriate or an appropriate?

A. An appropriate.

Q. When do you -- in your opinion, to a reasonable degree of medical probability, when did Krysta develop meningitis, as you define it?

A. Krysta developed meningitis somewhere during the May 19 time period.

Q. That's 24 hours. Can you be any more specific than that?

A. No. I don't think anybody could pinpoint the moment that meningitis developed. This is a process that develops over time, and because we don't have the privilege of having access to a lumbar puncture during that time period, nobody can specify the time when this developed.

Q. Okay. And based on what I've been reading on this -- and obviously, I'm not an expert like you -- but it seems to me that meningitis can develop pretty much anytime in an infant who has bacteremia, true, because these bugs are circulating through the system and going in and out of the area of the brain?

A. That is correct.

Q. So this could have happened pretty

much -- the meningitis could have begun anytime after Krysta developed her bacteremia until up to the time late that evening that she had more obvious signs of meningitis?

A. Yes, sir.

Q. And you can't narrow down any more than that time period from, say, 1:00 in the morning until 9:00 the evening of the 19th?

And I'm not saying you should. I'm just trying to figure out what you're saying.

A. No, no. You are correct. I mean, there is -- there is nothing on the records to suggest that she had meningitis in the morning of May 18th.

Q. Okay.

A. There were no clinical signs to suggest the presence of meningitis.

Q. You mean the 19th or the 18th?

A. The 19th.

Q. 19th, okay.

A. As the day -- as the evening went by, she started developing symptoms that indicated the presence of meningitis.

Q. How about 8:00 or 9:00 in the

morning, we're not sure which, when Dr. Corrigan is examining Krysta, do you think she had meningitis then?

A. I don't see anything to suggest that she had meningitis.

Q. Does that mean that you think probably, she didn't or probably, she did?

A. Probably, she did not.

Q. And how do you define meningitis, just so we're clear, because we talked about that a little earlier?

A. Sure. Meningitis is the presence of inflammation in the meninges or covering of the brain.

Q. Caused by either bacteria or a virus?

A. Most commonly caused by bacteria or a virus.

Q. What is fulminant meningitis?

A. Fulminant meningitis is a rapidly progressing form of meningitis, one that develops very quickly.

Q. Did Krysta's meningitis develop very quickly?

MR. BUXTON: Object to foundation.

THE WITNESS: In terms of her symptoms, it did progress very quickly.

BY MR. TIEMEIER:

Q. So she would probably fall into that category of fulminant?

MR. BUXTON: Object to form.

THE WITNESS: Yes, I would say so.

BY MR. TIEMEIER:

Q. And certainly with a disease like Citrobacter, as aggressive as it is, that wouldn't surprise you, would it?

A. That is correct.

Q. What are some of the risks of prescribing antibiotics to neonates who do not have an infection?

I take it from reading some of the titles of your presentations that that's something you talk about from time to time?

A. That's correct.

Q. Okay. Can you tell me what some of those risks are?

A. The risks are very few.

They can include allergic reaction, which are very unusual in this age group.

Q. Anything else?

A. They can include the development of bacteria resistance.

MR. JAUDON: I'm sorry. I didn't hear that answer.

THE WITNESS: The development of bacteria resistance.

BY MR. TIEMEIER:

Q. Anything else?

A. That's the inherited risk of putting an IV, which may include some discomfort or the possibility of introducing an infection by that route.

Q. Anything else?

A. No, sir.

Q. How about prolonged hospitalization?

A. I don't consider that a risk of administering antibiotics. It may be a consequence.

Q. Do sometimes people -- what is the name of -- is it nosocomial infections, hospital-acquired infections? Am I using that term correctly?

A. That's correct.

Q. So that's something that an infant would get if they're in the hospital and they

wouldn't get if they're out of the hospital, true?

A. That's correct.

Q. And I don't know if this is something that is really a risk or consequence, but in terms of the bonding between the mother and the child, is that inhibited at all by the infant being in the hospital?

A. We could argue that, indeed, the administration of antibiotics may have somewhat of an effect on the bonding that is occurring at that time.

Q. Okay.

A. But when we put in the context of this minimal risk and all the potential benefits, we can understand why --

Q. I'm sorry.

A. -- infectious disease specialists, pediatricians, and neonatologists recommend the administration of empiric antibiotics until an infection is ruled out under circumstances such as the ones that Krysta encountered.

Q. Do you know who Leonard G. Feld is?

A. Yes, sir, I do.
Q. And who is Leonard Feld, Dr. Feld?
A. Dr. Feld is a physician that has written articles on the management of fever in the newborn.
Q. Is he considered an expert in that area?
MR. BUXTON: Object to foundation.
THE WITNESS: I do not know.
BY MR. TIEMEIER:
Q. Do you consider him an expert in the area?
A. I do not know enough of him to say if he is or not.
Q. How about Dr. Jeffrey Hymans, H-y-m-a-n-s?
A. I do not know him.
Q. How about Alan Meltzer?
A. I do not know him.
Q. Keith Powell?
A. Yes, I do know him.
Q. And who is Keith Powell, Dr. Powell?
A. Keith Powell is an infectious disease pediatric physician in Memphis,

Tennessee.

Q. He is a pretty well-known pediatric infectious disease specialist?

A. He's somebody that is well-known.

Q. Respected?

A. Yes.

MR. BUXTON: Object to the form.

BY MR. TIEMEIER:

Q. Is Dr. Feld a respected physician with respect to diagnose and treatment of fever in infants?

A. I don't know that.

MR. BUXTON: Object to form, foundation.

BY MR. TIEMEIER:

Q. How about Jeffrey Avner?

A. I do not know.

Q. Would you agree that there are different schools of thought among pediatricians when assessing an infant with a fever, whereas, some will immediately order antibiotics and then proceed with testing, and the other school of thought is that you should test first, and if the tests indicate a risk, that the infant is at risk for

infection, only then should you treat?

MR. BUXTON: Object to form.

THE WITNESS: That's too broad a question because it doesn't give me the specifics of the situation we're discussing.

BY MR. TIEMEIER:

Q. Okay. A situation where some physicians, some of the experts in this case have said that as soon as Krysta presented with an infection -- excuse me -- presented with a fever the evening of May 18 and report of a distended abdomen that that -- that immediately, the physician should have ordered antibiotics, and then after ordering the antibiotics begin the testing.

And what I'm asking -- so that's one school of thought.

The other school of thought would be that the physician needs to examine the child or have the child examined, do a CBC, and examine the results of the CBC, determine whether the distended abdomen is a result of ileus or if there's pneumatosis as opposed to just normal gas in the bowel.

And then, if those things show

that there is a problem that is attributable to an infection, then they should go ahead and treat.

Those are the two schools that I'm talking about.

MR. BUXTON: Object to form.

THE WITNESS: I don't know that I would characterize those -- I could not characterize those as school of thoughts.

I think that the unified concept is that fever in a newborn infant should be taken seriously and should be properly evaluated and treated, depending on age, risk factors, and clinical presentation.

BY MR. TIEMEIER:

Q. What was the first thing you said? Age?

A. Clinical picture --

Q. I think you had said age, risk factors?

A. Risk factors and clinical presentation.

Q. And if the physician evaluates the age, the risk factors and the clinical presentation and determines that the child's

clinical presentation is most likely not the result of an infection, then it's appropriate to not administer antibiotics?

A. No, that is not correct.

I said that the standard of care indicates that fever in a newborn should be evaluated appropriately and that the administration of antibiotics would depend on the age, risk factors, and clinical presentation.

Q. But not on the results of the examination?

A. That is part of the clinical presentation.

Q. Okay. Okay. So it's not a situation where, if the infant has a fever, you immediately administer antibiotics?

That's not what you're advocating? Just because the infant -- ipso facto, the infant has a fever, you have to administer antibiotics. You're not saying that, are you?

A. That's correct.

Q. What you're saying is if the infant has a fever, you need to take into

account its age, the clinical presentation and the risk factors, and if those suggest the need for antibiotics, then you administer antibiotics?

A. There are clear guidelines when antibiotics should be administered based on those factors, the age, the clinical presentation, and the risk factors.

Q. And where are those guidelines found?

A. Well, every -- I won't say.

Most newborn nurseries that I have been involved with have such guidelines. All of the institutions that I've worked for have had such guidelines.

Those guidelines are well-documented in the literature.

Q. Can you give me one citation so I would know where to look or even an author and a publication?

A. Sure. Remington and Klein Textbook Of Infections In The Newborn and Fetus.

Q. Thank you. Any particular edition?

A. Well, because those guidelines have changed over time, I would want to get the

most recent edition.

Q. Okay. What would be the one applicable for the care provided in 2002 in this case? Which edition, do you know?

A. No, I don't.

Q. Would it be the 2001 edition?

A. I don't know if there's one specific on that year.

Q. Okay. This may sound unusual, but in your opinion, does a doctor have a duty -- first of all, you know what informed consent is, don't you?

A. Yes, I do.

Q. Does a doctor have a duty under the doctrine of informed consent to discuss with every patient the possible treatments that are available for treating a disease that the doctor does not think the patient has?

In other words, let's say you examine an infant, and you don't think that the infant has, let's say, hip dysplasia.

Are you required at that point to inform the parents of the risks, benefits, and alternatives of treatment for hip

dysplasia?

A. Certainly not.

MR. BUXTON: Object to form.

BY MR. TIEMEIER:

Q. And why not?

A. It would take many days to discuss all the diagnoses that are not being considered on a particular patient.

MR. TIEMEIER: At this point, sir, I will pass the questioning on to my colleagues. Thank you very much for your time.

MR. BUXTON: Can we take a quick bathroom break?

MR. TIEMEIER: Sure.

(There was a recess taken.)

EXAMINATION

BY-MR.NIXON:

Q. Dr. Correa, are you ready to continue?

A. Yes, sir.

Q. My name is Scott Nixon, and I represent Dr. Laird in the case. I have some follow-up questions for you.

A. Sure.

Q. First of all, Doctor, do you agree that in giving your testimony in this matter that you have a professional obligation to be truthful and accurate in your testimony?

A. Yes, sir.

Q. And do you agree that you have an obligation to offer opinions that are current or, rather, consistent with the current state of the medical and scientific knowledge as of the time of the care that we're reviewing in this case, that is, May of 2002?

A. Yes, sir.

Q. Do you agree that you have an obligation to be objective in forming your opinions and not to be an advocate for one side of the case or the other?

A. That's correct.

Q. Do you agree that you are required or you should be prepared to modify or even withdraw opinions that you may have initially formed in this case if you're presented with compelling evidence that requires you to do so?

A. Yes, sir.

Q. And I believe you've already told

Mr. Tiemeier that you believe you've been provided with sufficient information regarding the issues in this case in order to form your opinions; is that right?

A. Yes, sir.

Q. And you haven't asked for any additional documentation or medical research or other information?

A. That's correct.

Q. Now, when you were first provided the records in this case, sir -- excuse me.

When you were first provided any materials in this case, did you just receive the medical records without the transcript of depositions?

And I think you were first contacted in 2004, and I know that was before any depositions were taken in the case.

A. That is correct.

Q. Okay. And did you review the records from Penrose Community Hospital when you were first provided them in February of 2004?

A. Yes, sir.

Q. And did you form your initial

opinions concerning the care and treatment of Krysta by the defendants in this case based upon your initial review of just the medical records at that time?

A. Yes, sir.

Q. And when you subsequently reviewed the depositions that you have identified for us at a later date, did that modify or change your opinions in any way?

A. I do not recall specifically if they modified it.

If anything, they may have added or substantiated some of my opinions.

Q. But would it be accurate to say that as a result of reviewing the depositions, you did not withdraw any opinions that you had already formulated in which you were critical of any of the defendants?

A. Not that I recall specifically.

Q. Would it be accurate to say that the general opinions that you formed in this case regarding the conduct of the defendants is primarily based on your review of the medical record alone, independent of the deposition testimony?

A. That would be a fair statement.

Q. Now, you made contributions to the medical literature, and those are included in your curriculum vitae, correct?

A. Yes, sir.

Q. And you have made contributions to periodicals, such as medical journals; is that right?

A. Yes, sir.

Q. And also to textbooks?

A. That's correct.

Q. And you've also given presentations and done grand rounds at various institutions and medical centers?

A. Yes, sir.

Q. And when you do that, when you publish and when you speak, would you agree that you always are trying to be as accurate and current as possible in the information that you're presenting?

A. Yes, sir.

Q. And you would agree that one of the reasons you always try to be as accurate and current as possible in the information that you publish and speak about is because

there may be students or clinicians relying upon the information that you provide, correct?

A. Yes, sir.

Q. And in some of the medical literature that you have published, you have actually made recommendations or suggestions on how to treat patients under certain circumstances, correct?

A. Yes, sir.

Q. And you think that it would be reasonable for clinicians to rely upon those recommendations as of the time that you publish them or speak about them?

A. Yes, sir.

Q. You've also served as a reviewer, I think you said, for a number of different peer review journals; is that correct?

A. Yes, sir.

Q. Which journals?

A. Pediatric Infectious Disease Journal, Journal of Pediatrics, Pediatrics, Journal of Respiratory Infections.

Q. The Red Book?

A. The Red Book. That's a little bit

of a different type of publication. So that's why I didn't include it.

Q. We'll deal with it separately, then.

A. Those would be the main ones.

Q. And in your opinion, are the journals that you review for as a reviewer all journals that are reasonable and reliable within the fields they publish?

MR. BUXTON: Object to form.

THE WITNESS: Yes, they are.

BY MR. NIXON:

Q. Now, you said the Red Book is a little bit different type of publication.

First of all, what is the Red Book?

A. The Red Book is a common term that we use for a guideline that is published by the infectious disease immunizations committee of the American Academy Of Pediatrics.

Q. You're described in your CV and I think you mentioned earlier that you are a primary reviewer?

A. That is correct.

Q. What does that mean, and what do

you do as a primary reviewer?

A. The Red Book editors select a number of primary reviewers to look at a specific topic or topics so that they can be the first ones to modify or update the recommendations for that specific condition.

Q. And what specific area or topic were you asked to be primary reviewer for in the 2003 Red Book?

A. My involvement with that edition was in the area of fungal infections. Different parts of fungal infections, including treatment and diagnosis.

Q. And in the 2006 Red Book, were you also asked to be a primary reviewer?

A. Yes, sir.

Q. And what areas or topics were you asked to review in that edition?

A. The same ones.

Q. And in your opinion, is the 2003 Red Book report of the committee of infectious or uninfectious diseases by the AAP a reliable source for pediatricians and clinicians to use for researching pediatric infectious disease issues?

A. Yes, sir.
Q. Is that a consensus document -- is that term -- as you understand that term?
A. It is a consensus document.
Q. Do you know a Dr. George Pater, that's P-a-t-e-r?
A. Yes, I do.
Q. How do you know Dr. Pater?
A. Dr. Pater was the chief editor of the Red Book for a number of years.
Q. Have you met him before?
A. I have -- I have met him, yes.
Q. Have you heard him speak or make any presentations?
A. Yes, I have.
Q. Do you recognize him as an authority in the area of pediatric infectious diseases?
MR. BUXTON: Object to form.
THE WITNESS: I believe he is a well-respected physician in that area.
BY MR. NIXON:
Q. But you have never shared patients or made referrals with him, I assume, because he practices on the East Coast?

A. That's correct.

Q. You earlier identified Pediatrics as a respected peer review publication, correct?

A. Yes, sir.

Q. Do you believe that the Remington and Klein text that you just referred to Mr. -- referred Mr. Tiemeier to is also a respected peer review publication?

A. That textbook is not a peer-reviewed publication.

Q. I stand corrected. Obviously, it's not. It's a textbook.

Is it a respected textbook in the area of pediatric infectious diseases?

A. Yes.

MR. BUXTON: Object to form.

THE WITNESS: It's a respected and well-recognized reference.

BY MR. NIXON:

Q. Are you familiar with Menkes text on child neurology?

A. No, I'm not.

Q. Are you familiar with the Feigin & Cherry text on pediatric infectious diseases?

A. Yes, I am.

Q. Is that a recognized and respected resource for pediatric infectious disease issues?

MR. BUXTON: Object to form.

THE WITNESS: Yes, it is.

BY MR. NIXON:

Q. Are you familiar with the Pediatric Clinics Of North America?

A. Yes, I am.

Q. And is that a respected peer-reviewed publication in the area of pediatrics?

MR. BUXTON: Object to form.

THE WITNESS: I do not believe it is a peer-reviewed publication.

BY MR. NIXON:

Q. Setting aside the peer review issue, to your knowledge, is it a respected publication with respect to pediatric issues?

MR. BUXTON: Object to form.

THE WITNESS: I do not know or use this publication enough to tell you that is the case.

///

BY MR. NIXON:

Q. To comment on that, that's fair.

Have you ever heard of Dr. Jeffrey Gerdes from Children's Hospital of Philadelphia?

A. I do not recognize that name.

Q. He was endorsed as an expert witness by the Vitetta family in this case.

Did you know that his name was included on the endorsement?

A. Yes.

Q. But you didn't recognize it when you saw it?

A. That's correct.

Q. Did you recognize or know Dr. Modanlou?

A. No, sir.

Q. He is a neonatologist that practices in Southern California?

A. That's my understanding.

Q. Did you recognize or do you know the name of Dr. Nelson, a pediatric neuroradiologist in Southern California?

A. I recognize the name.

Q. Did you recognize the name or do

you know Dr. Rine, a neonatologist at Packard Children's Hospital at Stanford?

A. No, I do not.

Q. Would you agree, Doctor, that in cases of Citrobacter meningitis in nenonates that approximately 70 percent of that patient population will develop brain abscesses?

A. Earlier reports had indicated that a number as large as 70 percent or 75 percent would go on to develop brain abscesses.

However, there's been some more recent publications that show a somewhat decreased number.

Q. One publication in particular is the Remington and Klein 2001 text which talks about the reported figure of approximately 75 percent of that patient population experiencing brain abscesses.

Are you familiar -- can you identify for me any reports since 2001 that would indicate it's a lesser occurrence than 75 percent?

A. I could not identify it specifically for you.

Q. Do you have any memory of where you may have seen that, what you base your answer to me?

A. It is in one of the infectious disease journals, but I do not recall any more specific information.

Q. And when you say somewhat less than the 75 percent, do you have a current memory of what you believe you read or heard about in terms of more current reports of the occurrence of brain abscesses in Citrobacter meningitis in nenonates?

A. More around the 50 percent range.

Q. Would you be able to locate one or more references that supports that testimony?

A. I could certainly look for them.

Q. Would you do that and then provide that to Mr. Buxton if you find it?

A. I'd be glad to.

Q. Thank you.

The Remington and Klein text, at least as of 2001, also reports that mortality rates for nenonates experiencing Citrobacter meningitis is approximately 30 percent.

Is that consistent with your

understanding of that occurrence?

A. Yes, it is.

Q. It also reports, that is, the Remington and Klein in 2001, that of the survivors in this patient population, nenonates with Citrobacter meningitis, greater than 50 percent of those survivors experience some form of permanent neurologic injury.

Is that consistent with your understanding of the current state of the literature?

A. Yes, sir.

Q. You haven't been provided any actual imaging studies to review in this case, have you?

A. No, I have not.

Q. Just the reports?

A. That's correct.

Q. Have you relied on the information contained in any of the imaging reports for Krysta Vitetta in forming any of your opinions relating to whether or not any of the defendants breached or met the standard of care?

A. I have not.

Q. Have you relied on any of the information contained in the imaging reports for Krysta Vitetta in forming any opinions about causation in this case?

A. No, I have not.

Q. In this matter, this case involving Krysta Vitetta, have you been asked to formulate any opinions as to what Krysta Vitetta's current life expectancy is given her current physical and neurologic condition?

A. No, I have not.

Q. So if this case were ever to go to trial, you would not be offering opinions on what her life expectancy is; is that correct?

A. That is correct.

Q. Mr. Tiemeier asked you some questions about when meningitis, in your opinion, was first present in Krysta's condition -- excuse me -- in Krysta's case. And I want to refer you in that regard to a note that appears in the chart at 4:00 p.m. on May 19th.

And I don't know how your pages are numbered, but it is the note of Ms.

Stilson.

MR. BUXTON: I'll find it.

MR. NIXON: Mr. Buxton knows where it is.

BY MR. NIXON:

Q. And in the fourth line down, she describes the fontanel as full and soft.

Do you see that?

A. Yes.

Q. And what is the significance of a neonate of Krysta's age of having a full fontanel?

A. It may indicate that there is an infectious process that has developed.

Q. And I don't know if you've reviewed the chart for that purpose, but I can tell you that I believe this is the first instance where the word "full" is used to describe her fontanel.

If that's the case, would you agree that that is likely an indication that there is inflammation in the brain or meninges that's caused by the presence of the Citrobacter?

A. You are correct that this is the

first time it is referenced, and you are also correct that that may indicate the development of meningitis.

Q. Would you agree that it's more likely than not that we have a report of a neonatal nurse practitioner of a full fontanel as we do at that time at 4:00 p.m. that she probably had at that time at least the beginnings of her meningitis?

A. Yes, that's correct.

Q. And then, later, there is a note between 7:20 and 8:00 p.m., and that is on the nursing focus notes. Again, Mr. Buxton can find it.

I can show you mine, Doctor. I'm referring to the progress note between 1920 and 2000.

Do you see that?

A. Yes, sir.

Q. And I've underlined where it says, "anterior --"

A. Fontanel tense."

Q. "Tense," right. And "tense" would indicate that there's some pressure associated with the fullness that the person is

reporting, correct?

A. That's correct.

Q. And you would again agree that that would be a further indication that it's more likely than not at that point in time that Krysta had meningitis?

A. It would be an additional indication to suggest that meningitis had developed.

Q. And if you were asked to suggest whether it was probable or possible, you would agree that it's probable, at that time, she had meningitis?

A. Yes, I would agree.

Q. And if we use the rubric of the medical-legal arena, you would agree with me it's more likely than not or to a reasonable degree of medical probability that she has meningitis at that time, correct?

A. I would agree with that.

Q. Is a full and tense fontanel a clinical indication of an increased degree of intercranial pressure?

A. A full and tense fontanel may be an indication of an increasing intracranial

pressure.

Q. Do you have an opinion at the time the note was recorded between 1920 and 2000 or between 7:20 and 8:00 p.m. on the 19th that Krysta Vitetta had increased intercranial pressure?

A. No, I do not.

Q. So she may or may not; you don't know?

A. That's correct.

Q. Now, at approximately 8:00 p.m. or shortly thereafter, based on your review of the chart, would you agree that, by that point in time, Krysta had been reported as suffering desaturation into the 50s with apnea and bradycardia?

A. That is correct.

Q. And by 8:00 on the 18th, she has been reported several times as having skin coloration that is gray and mottled?

A. Yes, sir.

Q. She is reported by that time as being irritable and crying?

A. That is correct.

Q. She is reported by that point in

time as having retractions with breathing and rapid, shallow respirations, correct?

A. Yes, sir.

Q. She has been reported by 8:00 on the 19th as having a diastolic blood pressure in the 20s on at least one occasion, and that's in Dr. Reich's notes at 1930.

A. Yes, sir.

Q. And there, he also notes she has a full fontanel, is gray and mottled, and has a diastolic blood pressure in the 20s.

Do you see that?

A. Yes, sir.

Q. And as a result of that, he actually gave her a fluid bolus?

A. That's correct.

Q. As of 8:00 p.m. on the 19th, there were reports by the nursing staff that Krysta had experienced episodes of desaturation with simple care activities, such as placing a peripheral IV, correct?

A. Yes, sir.

Q. She had been determined to have a coagulopathy they based on her bloodwork?

A. Correct.

Q. By that time, she had also been determined to have both neutropenia and thrombocytopenia based on her bloodwork?

A. The neutropenia as present at that time.

Q. Her platelets were -- I don't have that figure. Pardon me. Is that what you're looking for?

A. Yes. I'm trying to confirm what you just stated.

There was a decreased number of platelets at that time.

Q. Which would be a thrombocytopenia?

A. That's correct.

Q. And she had been shown to be acidotic, correct?

A. Yes, sir.

Q. And tachycardic?

A. That's correct.

Q. Would you agree that, based upon all of those signs and symptoms and lab results, as of 8:00 p.m. on the 19th that Krysta Vitetta was unstable and critically ill?

A. I am of the opinion that she was

critically ill.

Q. And would you agree that when Dr. Laird arrived at the hospital at approximately 8:00 and found Krysta in that condition that she was required to assess Krysta and provide supportive measures to address those conditions?

A. Yes, sir.

Q. And would you agree that that was required in order to save Krysta's life at that time?

A. Yes, that's correct.

Q. And would you agree that, based on your review of the record, you have not been critical of any of the interventions that Dr. Laird initiated to treat the clinical condition of this child?

And I'm talking now about supportive measures.

A. Specifically as to supportive measures, no, I am not.

Q. Would you agree that, based upon the fact Krysta was critically ill at the time Dr. Laird saw her at about 8:00 p.m. on the 19th that it was a reasonable exercise of

Dr. Laird -- I'm sorry -- reasonable exercise of Dr. Laird's clinical judgment to defer the lumbar puncture until she initiated supportive measures to treat Krysta's condition?

A. I would agree that that was the decision that Dr. Laird took.

I don't necessarily agree with completely postponing the lumbar puncture based on what was happening at that time.

Q. Do you agree whether or not a physician who is assessing a child in this condition decides to defer or not defer an LP at that point in time is something that is a decision, rather, that is best made by the physician who is at the bedside assessing the patient in a hands-on fashion?

A. Yes, I would.

Q. Would you, as a person who is reviewing the records in retrospect, give Dr. Laird the benefit of that advantage in concluding that it was within a reasonable range of decisions for her to conclude that the lumbar puncture should be deferred at that point in time until Krysta was stabilized, whether or not you agree or

disagree?

MR. BUXTON: Object to form.

THE WITNESS: Yes, I would.

BY MR. NIXON:

Q. In other words, this is an issue, the deferral of the lumbar puncture at that point in time, on which reasonable physicians who are well-trained can disagree?

MR. BUXTON: Object to form.

THE WITNESS: Well, that's not what your previous question was.

You said if I would give Dr. Laird the benefit of --

BY MR. NIXON:

Q. Of being there.

A. -- of being there.

Q. Right.

A. And I would say yes.

Q. What are the risks to a neonate in the condition like Krysta was in at approximately between 8:00 and 9:00 on the 19th of performing a lumbar puncture?

A. The risks would be very few, depending, again, on the clinical condition at that time, but could include bleeding and

further compromise of the cardiorespiratory status.

Q. Here is a statement I'm taking from Remington and Klein, 2001, regarding the risks of lumbar puncture.

I will just ask if you agree or disagree. It says, quote:

"The physician may choose to withhold or delay lumbar puncture in some infants who would be placed at risk, compromise, cardiac or respiratory function by the procedure."

A. I would agree with that.

Q. Initial choice of antibiotics in this case by Dr. Reich, and that is, the administration of Ampicillin and gentamicin late the afternoon of the 19th, do you agree that that was a reasonable choice within the standard of care for treating a child like Krysta at that time with suspected sepsis?

A. At the time that these antibiotics were ordered, Krysta had already developed signs and symptoms suggestive of meningitis, as we have already established.

When meningitis is a consideration,

in addition to Ampicillin and gentamicin, the recommendation is to administer a third-generation cephalosporin, such as cefotaxime.

Q. Would you agree with me, Doctor, that the choice of whether or not to add cefotaxime to the regimen of amp and gent in a patient with suspected meningitis is an option but is not reported anywhere in the medical literature as being a requirement in order to meet the standard of appropriate medical practice?

MR. BUXTON: Object to the form.

THE WITNESS: I don't qualify it an option. It's actually a recommendation when meningitis is diagnosed or suspected.

BY MR. NIXON:

Q. Can you direct me to or identify for me a citation that would support that?

A. Certainly the guidelines for the management of newborns that we have in our hospital nurseries would indicate such a recommendation.

Q. And I will come back to that in a moment.

First, let me ask you: Do you agree that studies of the treatment of sepsis and meningitis in nenonates who have gram-negative infections show that the use of cephalosporins is comparable but not superior to the use of Ampicillin and gentamicin?

MR. BUXTON: Object to the form.

THE WITNESS: Are you giving me a citation as such? I mean, are you saying this is a statement that's been published?

BY MR. NIXON:

Q. I am reading from Remington and Klein 2001, quote:

"Clinical and microbiologic results of studies of sepsis and meningitis in nenonates suggest that the third-generation cephalosporins are comparable but not superior to the traditional regimens of a penicillin and an aminoglycoside."

MR. BUXTON: Object to form.

BY MR. NIXON:

Q. Is it your understanding or would you agree with me that that is an accurate statement, not only as of 2001 but also as of today?

MR. BUXTON: Object to foundation.

THE WITNESS: In the broad terms that it's used in this context, it is correct.

However, we need to read that whole chapter to understand that in the specific setting of meningitis due to gram-negative organisms, cefotaxime does have an advantage over gentamicin because of its penetration in the cerebrospinal fluid.

BY MR. NIXON:

Q. Is there any reported scientific literature that states or concludes that because of the increased levels a child in the CSF or the higher levels of cefotaxime achieved in the CSF than gentamicin that it is, therefore, more effective in treating gram-negative meningitis and, therefore, results in better outcomes?

A. I am not aware to the specifics that you have just asked, but there is literature that indicates that cefotaxime has better penetration in the cerebrospinal fluid and should be the drug of choice when dealing with a meningitis due to disorganisms.

Q. Let's break your answer down into two parts.

Number one, I don't dispute at all your opinion that studies shows that cefotaxime achieves higher concentrations in the CSF than gentamicin in a child with meningitis.

My question addresses the second part of your statement, which is: Are there any studies which demonstrate that the higher concentration levels of the cefotaxime result in better outcomes?

A. Those studies have not been done because we already have cefotaxime as a standard of care in gram-negative meningitis, and to compare that to gentamicin would not be ethical.

Q. Doctor, I am reading from a 2004 article from the Pediatric Clinics of North America by Dr. Gerdes, one of plaintiff's other experts in this case that states:

"Gram-negative meningitis may be treated with Ampicillin and gentamicin or with Ampicillin and cefotaxime. Although, cefotaxime has superior CSF penetration and is

preferred by many clinicians, clinical studies have shown equivalent results would be either regimen."

First of all, do you agree or disagree with that?

MR. BUXTON: Object to form and foundation unless he sees the article.

BY MR. NIXON:

Q. I will be happy to show you.

MR. BUXTON: Let's take a break and let him read it.

MR. NIXON: I'm not taking a break, Tim.

MR. BUXTON: Well, I'm going to object unless he gets to read the article, unless he's familiar with it.

BY MR. NIXON:

Q. I'd like you to look at the section that I read in the lower right-hand corner, Doctor, and tell me, do you have any basis to agree or disagree with that statement?

MR. BUXTON: Object to form.

THE WITNESS: This statement is made based on only one study that compare

regimens with cefotaxime versus those with gentamicin.

I do not know enough about the particulars of this study to be able to agree or disagree.

BY MR. NIXON:

Q. Would you agree -- let me ask you a different question.

Would you agree that a reasonable clinician reading this statement in 2004 would be justified in concluding that he or she would be within the standard of care to treat even known gram-negative meningitis with either amp and gent or cefotaxime?

MR. BUXTON: Object to foundation.

BY MR. TIEMEIER:

Q. Well, if such --

THE REPORTER: Hold on a minute. I'm having a problem with my paper.

(There was a discussion off the record.)

BY MR. NIXON:

Q. Dr. Correa, let me start the question over again so we have a complete record.

Would you agree that a reasonable clinician reading the statement that I showed you reading from Dr. Gerdes' article from 2004 would be justified in concluding that he or she would be within the standard of care to treat even known gram-negative meningitis with either the regimen of amp and gent or cefotaxime?

MR. BUXTON: Object to form and foundation.

THE WITNESS: When as a physician I make a decision based on the standard of care, I rarely use just one source to make such a statement.

However, if you encounter a physician that only read that particular article, I would understand why that could have been an assumption, although I do not agree with it.

BY MR. NIXON:

Q. Let me ask it just a little differently, and then, I'll move on.

Do you agree with me that what Dr. Gerdes says in his article, in a nutshell, is that it's reasonable to use either amp and

gent or cefotaxime to treat gram-negative meningitis?

MR. BUXTON: Object to foundation.

BY MR. NIXON:

Q. Whether you agree with it or not, when you read his articles, that's what it says?

MR. BUXTON: Object to foundation. He hasn't read the article.

THE WITNESS: I haven't had the privilege of reading his article. I've read seven or eight lines of that article, and if we just take that isolated without the privilege of reading the rest of the article, I would agree with you.

BY MR. NIXON:

Q. Now, you were never shown this article before today? Mr. Buxton didn't give it to you before your deposition as part of your materials in the case?

A. Not to my knowledge. Not that I know of.

Q. The 2003 Red Book of which you were a contributor -- correct?

A. That's correct.

Q. -- states, quote:

"Initial empiric treatment for suspected bacterial septicemia or meningitis in nenonates is Ampicillin and an aminoglycoside."

Did you know that?

A. Yes.

Q. Do you agree with that?

A. Yes, I do.

Q. The next sentence, and I'm not taking it out of context. I'm just taking this one line at a time.

"As an alternative regimen of Ampicillin and an expanded spectrum cephalosporin such as cefotaxime can be used, but rapid emergence of cephalosporin-resistant strains," and that means a couple, "can occur when it's used routinely."

Do you agree with that?

A. That's correct.

Q. And it finally says:

"Hence, routine use of an expanded spectrum cephalosporin is not recommended unless gram-negative bacterial meningitis is strongly suspected."

Do you agree with that?

A. Yes, I do agree with that.

Q. Now, in this case, in the case of Krysta Vitetta, until CSF cultures or blood cultures were returned, what about her clinical condition should have caused a reasonable physician to have a strong suspicion of gram-negative meningitis?

A. I think you and I have already established that there were enough signs and symptoms at that time that suggested the presence of meningitis.

Q. I agree.

A. However, there is no way that clinically, you can distinguish gram-positive from gram-negative meningitis. Hence, my recommendation that cefotaxime be added when you suspect bacterial meningitis until you determine if it is a gram-positive or gram-negative meningitis.

The one thing that could make a difference is a lumbar puncture, which unfortunately, was not performed at that time.

Q. You stated your preference, but would you agree with me that even the Red Book does not state or recommend under its

treatment section regarding gram-negative bacilli that cefotaxime or another third-generation cephalosporin should be given when meningitis is suspected?

Isn't that true?

A. That is true, with the understanding that, here, they are referring to a suspicion of meningitis that has the advantage of having a gram stain or a CIE to favor a possibility of a gram-positive organism.

However, if you have the spinal fluid in C gram-negative organisms or if you have a CIE for a group B step that is negative, then that should increase your suspicion of gram-negative meningitis, and I would, under those circumstances, recommend the addition of cefotaxime.

Q. Would you agree that there are reasonable, well-trained physicians in the fields of neonatology and pediatric infectious diseases that disagree with you?

MR. BUXTON: Object to form.

BY MR. NIXON:

Q. On that very issue.

A. I do not know anybody that disagrees with me in that specific issue.

And again, if we take the whole context of what this Red Book chapter is, they're talking about a patient who has been evaluated for the possibility of meningitis and in which you have the advantage of having cerebrospinal fluid available.

Q. Isn't the standard practice or one of the standard reasonable practices to begin treatment of a neonate with suspected meningitis with amp and gent and then obtain a CSF in order to get the microbiologic results in order to plan further adjustments to antibiotics?

A. Not only microbiologic results, but some of their information is helpful.

Q. And then, based on the results of those microbiologic tests, if it's gram-negative or if there's a specific bug identified with specific sensitivities, further adjustments can be made to the antibiotic regimen to more accurately hone in on what you're dealing with?

A. Yes, that is correct.

Q. But you would agree that the initial use of cefotaxime as an empiric treatment for neonates with suspected meningitis is not presented as a standard or required practice anywhere in the literature, correct?

A. No. I would disagree with you.

When we have polled the major children's hospitals in the country, about half of them use a regimen of Ampicillin and cefotaxime. The other ones use Ampicillin and gentamicin as empiric therapy when you have the advantage of having all the information together.

In this specific case, the lack of cerebrospinal fluid was, in my opinion, an indication to start cefotaxime rather than gentamicin.

Q. Would you agree with me that even if Dr. Laird had started cefotaxime sometime after she arrived and had time to evaluate Krysta and treat her immediate clinical needs after 8:00 p.m. on the 19th that you cannot state to a reasonable degree of medical probability that Krysta's outcome would have

been improved?

MR. BUXTON: Object to form.

BY MR. NIXON:

Q. That would be speculation on your part, true?

MR. BUXTON: Object to form.

THE WITNESS: I would disagree with that.

I am not saying that she would have had a completely normal outcome, but it is quite possible that in this early stage of meningitis, the administration of cefotaxime would have led to at least a better outcome than what we had.

BY MR. NIXON:

Q. Well, you used the word "possible," and I want to remind you that we've already established that there are no studies or reports that better outcomes are achieved using cefotaxime versus gentamicin despite the fact that it achieves higher concentrations in the CSF.

Based on that, would you agree that you cannot say with probability, that is, with greater than 50 percent likelihood,

that if sometime after 8:00 p.m. on the 19th, cefotaxime had been added, that Krysta's outcome would have been better?

MR. BUXTON: Object to form.

THE WITNESS: I disagree with your statement because we have not established that cefotaxime is not superior to gentamicin.

You have shown me one piece -- one part of an article that indicates or suggests that possibility, but I would not say that -- I cannot say that we have established that to be a true fact.

BY MR. NIXON:

Q. And I'm not trying to beat a dead horse, but you keep coming back to this issue.

Can you identify for me anywhere, anecdotally, in the literature, or otherwise, that provides scientific proof that the use of cefotaxime results in better outcomes, clinical outcomes for patients, than gentamicin when dealing with gram-negative meningitis?

A. No, I cannot specifically point out to such an article.

Q. And if that's the case, would you

agree that you cannot state with probability that giving Krysta cefotaxime approximately 18 to 20 hours earlier than she did receive it, considering she was already receiving Ampicillin and gentamicin, would have resulted in a better outcome in this case?

MR. BUXTON: Object to form.

THE WITNESS: Not based on a specific published article that looks at such a delay in administration of antibiotics.

But there is numerous articles that support the theory that cefotaxime is sufficient to gentamicin based on antibiotic penetration and based on the pharmacokinetics of the antibiotic.

BY MR. NIXON:

Q. Please identify one for me.

A. I'd be glad -- I mean, I don't have the citation with me, but there's numerous articles that show that cefotaxime has a better penetration to gentamicin.

Q. And I'm not disputing that. I'm going to the second point again.

Can you provide me with any citations that show that the better

penetration or the higher concentrations of cefotaxime compared to gentamicin actually produces better results?

MR. BUXTON: Object to the form.

THE WITNESS: No. As I established earlier, I am not aware of such literature.

BY MR. NIXON:

Q. What was the sensitivity of this specific bug in Krysta's case to gentamicin?

A. It was a susceptible isolate.

Q. It was less than 1, correct?

A. That's correct.

Q. And would you agree with me that it is more likely than not, it is probable that the concentration of gentamicin achieved in the CSF in Krysta's case exceeded the MIC for the Citrobacter?

MR. BUXTON: Object to foundation.

THE WITNESS: No, I cannot quantify that.

BY MR. NIXON:

Q. Can you testify with probability that the MIC of gentamicin did not -- excuse me -- that the concentration of gentamicin

did not reach the MIC of the Citrobacter in her CSF?

A. No, I cannot.

Q. Is there any way to do that?

A. Well, we know that the penetration of gentamicin is approximately 10 percent of that of the serum levels.

Assuming that Krysta had therapeutic levels despite the fact that she was getting a less-than-recommended dosage of gentamicin, a reasonable assumption would be that her blood levels were about 8 micrograms per ml in the blood.

That means that the amount that was getting to her spinal fluid was approximately .8, which would not be sufficient to -- would not be above that MIC.

Q. But it was probably at approximate MIC?

A. It may have been at the MIC.

Q. And if more than 10 percent of the serum level is achieved in the CSF, that would mean that it is -- the MIC of less than 1 was achieved?

MR. BUXTON: Object to form.

THE WITNESS: It may have been achieved at one point in time.

BY MR. NIXON:

Q. Can you tell me from the chart what the susceptibility or sensitivity of Citrobacter in her case was with respect to cefotaxime?

A. It was susceptible.

Q. Which of the antibiotics are you referring to on that susceptibility report?

A. I am referring to ceftriaxone.

Q. Ceftriaxone, is that the same as cefotaxime or similar?

A. It's in the same class and family.

Q. And is it always the case that if a bug is susceptible to ceftriaxone, it is also susceptible to cefotaxime?

A. Yes.

MR. NIXON: This is probably a good time to take a short break.

(There was a recess taken.)

BY MR. NIXON:

Q. Dr. Correa, with respect to my client, Dr. Laird, would it be accurate to state that it's your opinion that if she

deferred the lumbar puncture based upon the exercise of her clinical judgment because she felt Krysta was clinically unstable and it was unsafe that it's your opinion that she should have at that time, under those circumstances, administered or added cefotaxime to the antibiotic regimen to account for the possibility that this was a gram-negative bug?

A. Yes, sir.

Q. And based on our discussion before the break, am I correct in stating that, although you personally may disagree with her choice to defer the lumbar puncture because of Krysta's condition, you are not going to testify that it was negligent or below the standard of care for her to do so, setting aside the issue of changing antibiotics for the moment?

A. Because it's not within the realm of my specialty, I'm not willing to testify whether that was consistent with the standard of care or not.

Q. Okay. And I was going to ask you about that.

As a pediatric infectious disease

consultant, you aren't typically the physician who is in the NICU providing the supportive therapy and treating a child such as Krysta as the neonatologist did; is that correct?

A. That's correct.

Q. You don't perform lumbar punctures yourself, do you?

A. Occasionally, I do.

Q. But that's not something you routinely do?

A. That's correct.

Q. Typically, you're called in on a meningitis case after the diagnosis has been made for your recommendations on which antibiotics to use?

A. Not necessarily after the diagnosis has been made, but once the diagnosis is suspected.

Q. So with respect to Dr. Laird, anyway, is it your only criticism of her where you believe she fell below the standard of care for a neonatologist that she did not add cefotaxime to the antibiotic regimen based upon her decision to defer the lumbar puncture?

A. That is correct.

MR. NIXON: That's all I have. I'm going to pass the questioning to Mr. Martin. Thank you.

EXAMINATION

BY-MR.MARTIN:

Q. Doctor, I represent the hospitals and the NNPs, and I don't have too many questions, you'll be happy to hear.

I wanted to start by asking you some questions about your background, though.

You went to medical school or at least got your M.D. degree in Mexico; is that right?

A. Yes, sir.

Q. And tell me about the course of study to get an M.D. degree in Mexico.

A. Yes, sir. It's a seven-year program that basically includes the equivalent of premedicine as an undergrad and medical school all in one system.

So I did my six years at the Monterey Institute of Technology, and I did a seventh year as what we call social service work where you go and work for one year in

an underserved community.

Q. And in terms of what took you to Mexico to get your M.D. degree, did you grow up there, or did you grow up in the United States, and you went to Mexico for that education?

A. Although I was born in the United States, I grew up in Mexico. That's where I went to primary and high school.

Q. So you are -- I'm not trying to be offensive about this at all in view of our recent immigration debate here in this country, but I just want factually to make sure I understand this.

You are a United States citizen by virtue of being born here?

A. Yes, sir.

Q. And your family, though, was living in Mexico, and so, you grew up in Mexico?

A. That is correct.

Q. And so, whatever would be the equivalent in Mexico of elementary education and secondary high school education, that all was in Mexico as well?

A. Yes, sir.

Q. And then, after you got your M.D. degree, you came to the United States -- came back to the United States, I should say, and did your internship and your residency and your fellowship?

A. That is correct.

Q. Okay. And after your fellowship, then, it looks like you were -- your CV says you were an attending physician at several hospitals, including the Texas Children's Hospital; is that right?

A. Yes, sir.

Q. Is the Texas Children's Hospital -- and I've been down there to that complex, and it's pretty confusing -- but is the Texas Children's Hospital the Children's Hospital that's associated with the Baylor College Of Medicine where you did your pediatric infectious disease fellowship?

A. Yes, sir.

Q. And there's another Children's Hospital right there in that same complex, isn't there?

A. Yes, there is. Harmon Hospital has a children's center, which is a hospital

within a hospital, if that makes sense.

Q. And what educational institution is the Harmon Children's Hospital associated with?

A. University of Texas at Houston.

Q. So your affiliations, if you will, have always been with the Baylor College of Medicine rather than the University of Texas School of Medicine?

A. That is correct.

Q. And --

A. And presently with Tulane University.

Q. And when you -- I'm sorry. Tulane in addition to the Baylor College of Medicine?

A. Well, as you are aware, because of the New Orleans hurricane, the medical school and the residents have moved to Houston. So they're under the supervision of Baylor physicians.

Q. Okay.

A. Three major medical schools within one block of each other.

Q. And then, when you were from '93 to 2002 listed as attending physician at the

Children's Texas Hospital and attending physician at the VenTaub, that's capital V-e-n, capital T-a-u-b General Hospital, what does that mean that you were an attending physician?

A. My employer was Baylor College of medicine, and Baylor provides the physicians to do the medical care at Texas Children's and Ven Taub Hospital.

Q. And is your employment currently by Baylor College of Medicine, or is it also by Tulane?

A. No. It's by Baylor College of Medicine.

Q. So if I'm understanding right, since you graduated or finished your fellowship, you have been employed by the Baylor College of Medicine?

A. No, that is not correct.

I just returned to Baylor College of Medicine.

Before that, I spent three years at the Mayo Clinic in Rochester, New York.

Q. Oh, I gotcha. Okay. Okay.

Now, the questions get even easier.

And I know the answers to these by looking at your CV, but I just need to go through it.

You have never been a registered nurse, have you?

A. That's correct.

Q. And you have never been trained as a registered nurse, have you?

A. That's correct.

Q. You have never been a neonatal nurse practitioner, have you?

A. That is correct.

Q. And you have never been trained as a neonatal nurse practitioner?

A. That's correct.

Q. Have you ever testified in a case before as an expert in the standard of care for nursing?

A. From the standpoint of the medical care, yes, I have.

Q. And what case or what cases were those?

A. I don't know that I can tell you specifically which cases they were.

If the list is still available, I

may take a quick look and --

MR. MARTIN: Okay. Is Exhibit 2 still available there somewhere?

MR. NIXON: Which one is that?

MR. BUXTON: It's his history.

BY MR. MARTIN:

Q. Is this the same thing you've looking at, Exhibit 2?

A. Yeah. I am sorry, but I am not able to tell you specifically which cases I did testify as to the nursing standard of care.

Q. Have you ever testified as an expert witness before in a case where you were testifying as an expert in the standard of care for neonatal nurse practitioners?

A. I don't think so.

Q. Have you ever written anything or published anything about nursing practice?

A. No, I have not.

Q. Have you ever written anything or published anything about neonatal nurse practitioner practice?

A. No, I have not.

Q. Have you ever given a lecture

about nursing practice?

A. Yes, I have.

Q. Tell me about that, please.

A. As part of my role as an academic physician, I frequently teach in nurses courses or nurse practitioner courses on selected IV topics.

Q. And so, you teach nurses about infectious disease?

A. That's correct.

Q. And you would agree that nurses aren't as knowledgeable as you are about infectious disease, true?

A. That's correct.

Q. And likewise, you'd agree that neonatal nurse practitioners aren't as knowledgeable as you are about infectious disease? Agree?

A. Certain infections, that's correct.

Q. Okay. The last thing I think I wanted to ask you about.

You indicated, as I understood it, that in terms of the period surrounding midnight between May 18th and May 19th -- you got the time period there?

A. Yes.
Q. It's your opinion that, at that time, Krysta Vitetta did not have meningitis; is that true?
A. That's correct.
Q. Would you agree, then, that if a lumbar puncture had been performed around that time, around midnight between May 18 and May 19, that the findings resulting from that lumbar puncture would not have been abnormal?
A. More likely than not, they would not have been abnormal.
Q. So just to put it in the terms that we use, to a reasonable degree of medical probability, the findings from a lumbar puncture at that time would not have been abnormal, true?
A. That's correct.
MR. MARTIN: That's all the questions I have. Thank you, sir.
THE WITNESS: Thank you.
EXAMINATION
BY-MR.JAUDON:
Q. Doctor, we met off the record. I'm Joe Jaudon, and I represent Dr. Reich.

So I'd like to ask you a few questions. I'll try not to duplicate anything that has been done.

Would you agree, sir, that not all cases of death or severe brain damage resulting from gram-negative septicemia or gram-negative meningitis are due to substandard care?

A. I would agree with that.

Q. And that there are cases where babies die or sustain significant brain damage where the medical care was appropriate?

A. That is correct.

Q. And the fact in this particular case, the fact alone that Krysta developed an infection that caused extensive brain damage, that fact alone does not mean that the conduct of Dr. Reich fell below the standard of care, does it?

MR. BUXTON: Object to form.

BY MR. JAUDON:

Q. I am asking you to consider just the mere fact of damage to Krysta.

That fact alone does not mean that Dr. Reich, his conduct fell below the

standard of care?

MR. BUXTON: Object to form.

THE WITNESS: That by itself does not necessarily indicate that Dr. Reich's care fell below the standard of care.

BY MR. JAUDON:

Q. Okay, sir.

And the infection experienced by Krysta and the resultant brain damage is the type of complication that can and does occur even though the physician is practicing within the standard of care?

A. That is correct.

Q. Would you agree, sir, that the type of an infection experienced by Krysta and the resultant brain damage is something that, tragically, cannot always be prevented?

A. Yes, that is correct.

Q. Now, without going back over the literature again, are you familiar with the fact that there are multiple publications where there is a reference to appropriate initial antibiotic therapy where you have a strong suspicion of sepsis that appropriate initial empiric antibiotic therapy is

Ampicillin and gentamicin?

A. That is correct.

Q. Okay. And that initial empiric treatment for the newborn with suspected bacterial sepsis or meningitis is also reported -- and I'm saying the initial treatment -- as Ampicillin and gentamicin?

Are you aware of that literature?

A. Yes, I am.

Q. And that literature was in effect in 2002, at the time Krysta was born?

A. Yes, sir.

Q. And sir, are you familiar with the publication Krugman's Infectious Diseases of Children?

A. I am.

Q. And is that a respected publication as it relates to diagnose, care, and treatment of nenonates with meningitis and sepsis?

MR. BUXTON: Object to form.

THE WITNESS: I do not know enough about that publication to be able to give you such opinion.

///

BY MR. JAUDON:

Q. Do you know whether that publication appears in the library of your hospital?

A. Yes, it is.

Q. And is it used as a resource by the physicians in training at your institution?

MR. BUXTON: Object to foundation.

THE WITNESS: I do not know if it is used by them on a regular basis.

BY MR. JAUDON:

Q. I didn't ask you if it was used on a regular basis, but is it one of the tools that is used by residents in training at your institution?

A. Yes, it is.

Q. And for physicians who have staff privileges at your institution?

A. That's correct.

Q. I want you to assume as true that Dr. Gerdes in this case testified that the initial evaluation by Dr. Reich of Krysta and the treatment of her was appropriate.

Would you have any reason to

dispute that, that opinion?

MR. BUXTON: Object to form and foundation.

BY MR. JAUDON:

Q. That opinion?

A. And again, you're asking me to assume that?

Q. Yes, sir, please.

A. I don't -- I have no reason to dispute that Dr. Reich might have testified as to such statement.

Q. Do you have any reason to dispute that opinion, the opinion of Dr. Gerdes?

MR. BUXTON: Object to form.

THE WITNESS: No. I would -- I would disagree with that.

BY MR. JAUDON:

Q. Okay. And Doctor, in your opinion, is that the subject upon which reasonable experts can disagree?

MR. BUXTON: Object to form.

THE WITNESS: You're asking me to give a factual statement based on a theoretical situation, so I don't know that I can answer your question.

BY MR. JAUDON:

Q. Oh, okay.

It is your feeling that the initial evaluation by Dr. Reich was not adequate, or do you have an opinion in that regard?

A. It is my opinion that his initial evaluation was appropriate.

Q. Okay, sir. I want you to assume as true that his working diagnosis at that time was sepsis with the possibility of NEC and the possibility of meningitis. All right?

A. I would to assume that.

Q. Would that be a reasonable diagnosis, in your opinion?

A. It would.

Q. I want you to assume as further true that he ordered Ampicillin and gentamicin, and the order from that, it's unclear from the record, but the first medication, the Ampicillin was given at 5:00 followed by the gentamicin at 6:00.

Okay, sir?

A. That's what the records reflect.

Q. And I want you to assume as true that Dr. Reich had two conversations with nurse -- with neonatal Nurse Practitioner Stilson. The first conversation was sometime after 4:00, and she advised him of the information contained in her 1600 note. Okay?

A. Okay.

Q. With the exception of the addendum that appears on the side of the note.

Further assume as true that after hearing this information, Dr. Reich said he was on the way in and got in his car and was going to the hospital, and while still in his car, I believe literally in the parking lot of the hospital, he received a second call from Nurse Stilson advising of the white count that had fallen to, I believe it's 2.7; is that correct?

A. 2.4.

Q. 2.6.

MR. BUXTON: 2.6.

THE WITNESS: 2.6.

BY MR. JAUDON:

Q. To 2.6 from 6.4 is the earlier

count?

A. That's correct.

Q. She also advised him of the differential, and he told her at that time to immediately get the order in for amp and gent and have the baby transferred to the intensive care unit.

Was that reasonable?

A. Yes, it was.

Q. Okay. And when I say, "reasonable," that also fell within the standard of care?

A. Up to that point, yes.

Q. Yes. And then, I want you to assume as true that he comes in, sees the baby, evaluates the baby's condition -- oh, I left out two things.

One was that during the phone conversation, Nurse Stilson -- the first phone conversation, Nurse Stilson said to Dr. Reich that she believed the child looked quite ill and that Dr. Reich then, when he sees the child after he arrives at the hospital, 5:00, 5:15, somewhere in that time zone, he too feels -- looks at the child and feels the

child is very sick and believes at that time that the child is septic.

Is that reasonable?

A. Is it reasonable to assume that?

Q. Yes. For him to assume that.

A. Yes.

Q. And that he felt the child -- I want you to assume the following are true.

These signs appeared between 5:00 and 7:00. The child had runny respirations; is that correct?

A. That's correct.

Q. Distended abdomen; is that right?

A. That is correct, but it had been present even before.

Q. Yes, sir. But it was present at the time he sees the child?

A. Yes, sir, that's correct.

Q. Tender abdomen?

A. Yes, sir.

Q. Tense abdomen?

A. Yes, sir.

Q. Tachypnea?

A. Yes, sir.

Q. Respiratory rate 60 breaths per

minute?

A. Yes, sir.

Q. Color gray?

A. Yes.

Q. Decreased perfusion?

A. Yes, sir.

Q. Respiratory difficulty?

A. Yes, sir.

Q. Extremities cool to the touch?

A. Yes, sir.

Q. Pallor?

A. Yes, sir.

Q. Mottling extremities?

A. Yes, sir.

Q. Unstable temperature?

A. That's correct.

Q. A history of temperatures, series of temperatures greater than a hundred?

A. That is correct.

Q. Neutropenia?

A. Yes, sir.

Q. Thrombocytopenia?

A. Yes, sir.

Q. Irritability?

A. Yes.

Q. And he found full fontanel?
A. That's correct.
Q. Color pale, skin feels hot centrally, and extremities very cool; is that correct?
A. Yes, sir.
Q. And at 1844, the baby became apneic with desats to 58?
A. Yes, sir.
Q. And the white count of 2600, what does that demonstrate, a white count that has fallen to 2600?
A. That is in the context of --
Q. This case?
A. -- what is going on that the sepsis has progressed, and this patient is now exhibiting multiple signs consistent with sepsis and the development of meningitis.
Q. And literally, a life-threatening condition?
A. That is correct.
Q. And sir, the platelets falling from 164,000 to 127, what does that signify?
A. Well, it indicates that the platelets are being consumed, are being used

somewhere.

Q. And does it reflect a potential coagulopathy problem?

A. Yes, sir.

Q. And the next platelet that was reported at 8:00 that evening, the platelets were 102,000.

Does that support a coagulopathy problem?

A. Yes, sir.

Q. And sir, the falling white count, does that signify or indicate that the pool of white cells that fight bacteria is being exhausted?

A. Yes, sir.

Q. Would you agree the total neutrophil count of less than 4,000 suggests depletion of bone marrow reserves?

A. Yes.

Q. And in this particular case, her total neutrophil count was 1.3, was it?

A. Are you referring later on that day?

Q. This is, I believe, roughly 8:00 p.m. that evening.

Do you see it?

MR. TIEMEIER: I show it 1.5.

Oh, wait. Platelet count?

THE WITNESS: Neutrophil.

MR. JAUDON: Neutrophil.

THE WITNESS: That is correct.

BY MR. JAUDON:

Q. And sir, would you agree that this represents a depletion of the bone marrow reserves and can literally mean overwhelming sepsis?

A. Yes, sir.

Q. And how long had that been going on? How long, in your opinion, would the neutrophil count have been critically low?

MR. BUXTON: Object to foundation.

THE WITNESS: There's no way of knowing how long that had been going on.

We do know that a CBC done around midnight of the 19th still showed normal white count, but we don't know what -- how long had it been since the development of the abnormalities in white count and neutrophil count and platelets.

///

BY MR. JAUDON:

Q. You said that the white count showed a normal white count at midnight on the 19th.

Did you mean the 18th, sir?

A. It's really -- I'm sorry. Midnight of the 18th.

Q. Okay. And also, the white count on the afternoon of the 19th was 6400, wasn't it?

A. No, sir. It was --

Q. The afternoon of the 19th?

A. The afternoon of the 19th, the white count was 2,600.

Q. I apologize. Now I'm doing it.

The afternoon of the 18th, the white count was 6400?

MR. BUXTON: Can you show him?

MR. JAUDON: Yes.

MR. BUXTON: I don't have it.

THE WITNESS: I don't have a CBC on the 18th.

MR. JAUDON: Okay.

MR. BUXTON: Do you have the 19th?

///

BY MR. JAUDON:

Q. I apologize. This is the 19th at 5 minutes after midnight.

A. And that's why I refer to it as the 19th.

So the one at midnight of the 18th and that transition between the 18th and the 19th was normal.

Q. Okay.

A. That's what I was referring to.

Q. And then, the next white count recorded was the 2.6; is that correct?

A. That's correct. So somewhere between those 16 hours, the white count, the platelet count, the neutrophil count went below normal.

Q. And further, I want you to assume as true that he looks at this baby, and in his medical judgment, he feels that this baby's condition is so critical that she cannot undergo a lumbar puncture at that time.

Would you agree that that is a reasonable judgment call on his part, taking into consideration the total clinical picture

that he had available to him?

MR. BUXTON: Object to form.

At what time?

BY MR. JAUDON:

Q. At the time he sees the patient.

MR. BUXTON: Because the symptoms you gave, you said happened between 5:00 and 7:00.

MR. JAUDON: That's correct. During that time. He's there the entire time.

BY MR. JAUDON:

Q. If you assume those facts are true, was that a reasonable judgment call on his part to defer lumbar puncture at that time?

MR. BUXTON: Object to the form.

THE WITNESS: Although I disagree that the condition was critical enough that a lumbar puncture could not be performed, I do not disagree that that was a judgment call.

BY MR. JAUDON:

Q. And a reasonable one within the standard of care?

MR. BUXTON: Object to form.

THE WITNESS: And again, as I answered before, I don't know that I could answer that in terms of the standard of care because, again, I disagree as a pediatrician and pediatric infectious specialist that there was a contraindication to do a lumbar puncture.

BY MR. JAUDON:

Q. Well, that's your opinion, and you would have, under this set of circumstances, probably done a lumbar puncture or had somebody else do it.

As a primary care pediatrician caring for this child at that time, I ask you to assume as true that the items that I listed, the signs that I listed, were the way the baby appeared at that time, and Dr. Reich made a judgment call to not do a lumbar puncture at that time.

Within the broad spectrum of standard of care, forgetting about the issue relating to antibiotics for a moment, would that be a reasonable decision?

MR. BUXTON: Object to form.

Could you define "at that time"?

BY MR. JAUDON:

Q. I'm talking about between 5:00 and 7:00.

MR. BUXTON: Object to the form.

THE WITNESS: I don't disagree that the standard of care is to make a decision based on what you are faced with.

What I disagree with is that there were enough concerns to withhold the performance of the lumbar puncture.

BY MR. JAUDON:

Q. All right. Do you acknowledge that in the peer-reviewed medical literature and the textbooks that you referred to earlier that it does provide that a physician evaluating a patient, if that physician feels that to do a lumbar puncture would run the risk of cardiovascular compromise for the patient that the physician can exercise the judgment to defer the lumbar puncture?

A. Yes, sir, I would.

Q. Okay. And would that be within the standard of care, then, in your opinion, to defer the lumbar puncture in this case for a period of time?

MR. BUXTON: Object to the form.

THE WITNESS: Yes, it would.

BY MR. JAUDON:

Q. Now, as I understand it, Dr. Reich, at approximately 7:30 p.m., calls for Dr. Laird to consult on the case.

Are you aware of that?

A. Yes.

Q. And according to the chart, that occurs at roughly 7:30 p.m., and at roughly 8:00, Dr. Laird arrives and assumes the primary care of Krysta.

Is that your understanding?

A. Yes, sir.

Q. Was that a reasonable thing for Dr. Reich to do, to bring in a neonatologist?

A. Yes, it was.

Q. Okay. Am I correct that the primary focus of your criticisms with Dr. Reich deal with this point that you raised, and that is, not bringing onboard an additional antibiotic, namely, cefotaxime?

MR. BUXTON: Object to the form.

THE WITNESS: My criticisms have been not -- are around the -- or, focus

around the lack of enough suspicion to bring an antibiotic onboard such as cefotaxime.

BY MR. JAUDON:

Q. Okay. Now, you have told us, I believe, that you feel that meningitis -- that this baby had meningitis when her fontanel was reported as full; is that correct?

A. I have said that once the fontanel was full, that raises the possibility that meningitis had already established.

Q. Did you not testify here, sir, that your opinion with reasonable medical probability was that when the fontanel was reported as full in this case that meningitis had already been established?

A. That's -- that is correct.

Q. And that still is your opinion now?

A. Yes, it is.

Q. All right. Now, in order for meningitis to exist, does not the bug, in this case, Citrobacter, have to at least some of it cross the blood brain barrier?

A. Yes, it does.

Q. And seeded in the meninges?
A. That's correct.
Q. And how long would it be from the time the bug crossed the barrier and seeds in the meninges before the fontanel would appear as full?
A. It is impossible to know how long, but it's certainly -- it's not an all-or-nothing phenomena. It's not one thing that there wasn't meningitis one moment, and then meningitis developed a minute later.
It's an evolving process. So it will depend on how many bacteria cross, how much inflammation it's causing.
There's no way to determine how long it took from the time that meningitis developed to the time that the fontanel became full.
Q. But you do agree that some period of time had to pass?
A. Yes.
Q. And can you give us your best estimate as to how much time that would be?
MR. BUXTON: Object to the form.
THE WITNESS: That is not

possible.

BY MR. JAUDON:

Q. Can you give me a range?

MR. BUXTON: Object to form.

THE WITNESS: Well, we know that Krysta did not have meningitis in the late hours of the 18th and the early hours of the 19th, and we know that she likely had meningitis by 6:00 p.m. that day. So somewhere in between was when meningitis developed, and then after that, the finding of a full fontanel.

BY MR. JAUDON:

Q. Okay. And you said 6:00 p.m., but I think you also told us that, looking at the 4:00 p.m. entry that talks about fontanel full, it is your opinion with reasonable degree of medical probability that, at that time, she had meningitis?

A. That is correct.

Q. All right.

A. And I meant to say 16 hours.

Q. 1600 hours.

A. So 4:00 p.m. yes.

Q. Now, do you have an opinion with

reasonable degree of medical probability as to whether -- as to when there should have been a change in the antibiotic treatment that had been initially ordered by Dr. Reich? And that was the Ampicillin and gentamicin? Do you have an opinion as to, first of all, whether there should be a change in it, and secondly, when that should have occurred?

A. It's my opinion that at the time that Dr. Reich decided not to perform a lumbar puncture because of the suspicion of meningitis that the addition or substitution of cefotaxime should have taken place.

Q. Okay, sir.

I'm going to shift gears to another subject for just a moment, and then, I'll come back to what we're talking about.

This is a deposition transcript for a deposition you gave in McKinnin versus Blanchett in September 2003 in the State of Minnesota.

Do you recall that deposition, that case?

A. Tell me again the case, sir.

Q. The case is Brenda McKinnin and

others versus Suzanne Blanchett Macki, M-a-c-k-i, M.D.

Do you remember that?

A. I remember the --

Q. The case?

A. The name of the case, yes.

Q. In the deposition -- and this case dealt with meningitis, and in the deposition in this case, I just want to read some questions and answers to you and have you tell me what you meant.

All right, sir? It says:

"Okay. We're going to get into that in a minute, but Doctor, let me go back to the antibiotics of choice here.

"Given the condition of this child and not having the benefit of cultures that -- because you wouldn't have the cultures back at that period of time, correct?

"Answer: That's correct.

"Question: How would you know what to use to treat the child's condition?

"Answer: We make the decision based on our knowledge of what the most common and likely organisms are in this age

group with this -- with these particular characteristics. So typically, we choose an antibiotic that will cover organisms like group B strep, pneumococcus, E. coli, Klebsiella, and other gram-negative bacteria." And this is the part I'm talking about.

"The choice varies from institution to institution, but it is typically a third-generation cephalosporin, such as cefotaxime." Okay? What did you mean by "this choice," referring to antibiotics, "varies from institution to institution? What did you mean by that?

A. As I alluded to earlier, what I meant is that some institutions have guidelines that call for using Ampicillin and gentamicin for the empiric treatment of suspected sepsis while other institutions, such as the Mayo Clinic, who I was working for at that time, call for cefotaxime and Ampicillin.

Q. And I think you said that the survey or poll that was conducted was almost most like a 50-50 split?

A. That was my recollection.

Q. Where 50 percent were like amp and

gent and 50 percent were cefotaxime?

A. That's correct.

Q. And we're talking about for the empiric administration of antibiotics in suspected meningitis?

A. No way. In suspected sepsis.

Q. All right. Would you agree that there is no clinical or scientific study reported in the peer review literature that establishes there is improvement in morbidity or mortality with the use of cefotaxime as compared to Ampicillin and gentamicin in the treatment of gram-negative bacterial sepsis or meningitis?

MR. BUXTON: Object to form.

BY MR. JAUDON:

Q. Would you agree with that?

A. As we have discussed earlier, I am not aware of such a complication.

Q. Would you agree that there is no scientific study reported in the peer review medical literature that has established that antibiotic treatment with third-generation cephalosporin, cefotaxime, instead of amp and gent results in an increased survival or more

rapid recovery from gram-negative bacterial meningitis?

MR. BUXTON: Object to form.

BY MR. JAUDON:

Q. Would you agree with that statement?

A. I would agree with that statement with the qualifier that I am not aware of such a publication.

Q. Such information appearing in the peer review literature?

A. That's correct.

Q. Doctor, could you describe for us -- and I'm going to talk specifics now -- the specific types of deficits that Krysta has as the result of her brain damage?

MR. BUXTON: Object to foundation.

BY MR. JAUDON:

Q. Or do you feel that that's outside your area of expertise?

A. I have not looked at her deficits from the standpoint of a pediatrician or a neurologist, so I'm not prepared to give an opinion as to that.

Q. And would you agree, sir, that

under that set of circumstances, you do not have a basis to give an opinion as to whether earlier administration of cefotaxime in this case would have prevented the brain damage sustained by Krysta?

MR. BUXTON: Object to form.

BY MR. JAUDON:

Q. Would you agree with that?

A. I don't see how that is a correlation.

I am prepared to testify that, in my opinion, the administration of antibiotic at an earlier time -- of cefotaxime, antibiotic, at an earlier time would have, more likely than not, made a difference in the ultimate neurologic outcome of this child.

Q. Have you in your practice evaluated and treated children for neurological deficits like Krysta?

A. Yes, I have.

Q. Do you call in a neurologist, pediatric neurologist, to participate, to consult in those kind of cases?

A. Very frequently, I do.

Q. And can you tell me how many times

in your career that you have actually done the evaluation and management of a child with damage like Krysta's?

MR. BUXTON: Object to the form.

THE WITNESS: If you -- how many times I have --

BY MR. JAUDON:

Q. Yes.

A. -- cared for patients like this?

Q. Cared for -- and I'm talking about the brain damage aspect of the care.

MR. BUXTON: Object to form.

THE WITNESS: I do not provide the care for the brain damage aspect of it.

BY MR. JAUDON:

Q. Okay. That's outside of your field?

A. That's correct.

Q. Would you agree, sir, that you are not qualified to express an opinion as to whether or not Krysta's brain damage, the brain damage she sustained in this case, would have been prevented by the administration, adding onto the antibiotic regimen, cefotaxime?

MR. BUXTON: Object to form.

THE WITNESS: No. I disagree with your statement.

I am qualified to do that because, as it has been established here, antibiotics given at an earlier time would have prevented the development of meningitis as a total.

BY MR. JAUDON:

Q. Okay. Tell me when that time is. You say, "earlier time."

You say that at an earlier time, antibiotic put onboard would have prevented the meningitis.

A. That's correct.

Q. Is that before the meningitis started, then?

A. This is before the meningitis had developed.

Q. Okay. Had crossed the blood brain barrier?

A. That's correct.

Q. And when in history -- when in point of time did that occur?

A. We don't know. Nobody knows.

Q. Would you agree that there are no

scientific studies that appear in the peer-reviewed medical literature that support the proposition that adding cefotaxime on the evening -- and I'm talking about from 5:00 p.m. on -- on the evening of 5-19 would have prevented the brain damage sustained by this child?

MR. BUXTON: Object to form.

THE WITNESS: I do not think that the administration of antibiotics at that time would have prevented the development of this neurologic outcome that she has.

BY MR. JAUDON:

Q. Okay, sir.

A. What I am saying is that antibiotics given at that time would have, more likely than not, had an effect in the overall outcome of this child.

Q. And the nature and extent of that effect, you are not qualified to say; is that correct, sir?

A. That is correct.

Q. Okay. And the opinions that you have just expressed are based upon reasonable medical probability?

A. Yes, sir.

Q. Okay. Other than what you've now testified to, do you have any other criticisms of Dr. Reich and his care in this case?

A. No, sir.

MR. JAUDON: Thank you, Doctor. No further questions.

MR.VAN DOREN: No questions.

MR. TIEMEIER: Go ahead.

FURTHER EXAMINATION

BY-MR.NIXON:

Q. Just quickly, Doctor, do you know who Hal Jensen, M.D. is?

A. Yes, sir, I do.

Q. And who is Dr. Jensen?

A. Dr. Jensen is a pediatric infectious disease specialist who, until recently, was in San Antonio, and I believe now, he is in Virginia.

Q. He was at the University of Texas?

A. He was at the University of Texas Healthside Center in San Antonio.

Q. How are you familiar with him? Have you ever worked with him or run into

him?

A. Yes. I ran into him at a number of meetings.

Q. As far as you are aware, is he a well-qualified pediatric infectious doctor?

A. Yes, he is.

Q. Did you know he was the pediatric infectious disease editor of the 16th edition of Nelson's Textbook of Pediatrics?

A. I did not realize that until you just mentioned it.

Q. Is Nelson's a respected and well-respected resource for physicians?

MR. BUXTON: Object to form.

THE WITNESS: Nelson is a respected reference source.

MR. NIXON: Okay. That was my only follow-up. Thank you.

MR. TIEMEIER: Nothing.

THE WITNESS: We're going to be here out of time.

MR. JAUDON: Thank you, Doctor.

THE WITNESS: Thank you.

MR. JAUDON: And thank you for your courtesy.

(The deposition was concluded at 6:05 p.m.)

DESCRIPTION OF EXHIBITS

Exhibit	Description
1	Notice of Deposition
2	Depositions in last 4 years for Dr. Armando Correa
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CERTIFICATE OF REPORTER

STATE OF NEVADA)
SS:
COUNTY OF CLARK)

I, Cynthia K. DuRivage, a duly commissioned Notary Public, Clark County, State of Nevada, do hereby certify:

That I reported the taking of the deposition of the witness, ARMANDO G. CORREA, M.D., commencing on Friday, May 12, 2006, at 1:28 p.m.

That I thereafter transcribed my said shorthand notes into typewriting and that the typewritten transcript of said deposition is a complete, true and accurate transcription of my said shorthand notes taken down at said time.

That review of the transcript was requested.

I further certify that I am not a relative or employee of an attorney or counsel of any of the parties, nor a relative or employee of an attorney or counsel involved in said action, nor a person financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my hand in my office in the County of Clark, State of Nevada, this 23rd day of May, 2006.

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Cynthia K. DuRivage, CCR 451

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CAPTION

The Deposition of Armando Correa, M.D.., taken in the matter, on the date, and at the time and place set out on the title page hereof.

It was requested that the deposition be taken by the reporter and that same be reduced to typewritten form.

It was agreed by and between counsel and the parties that the Deponent will read and sign the transcript of said deposition.

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CERTIFICATE

STATE OF :

COUNTY/CITY OF :

Before me, this day, personally appeared, Armando Correa, M.D.., who, being duly sworn, states that the foregoing transcript of his/her Deposition, taken in the matter, on the date, and at the time and place set out on the title page hereof, constitutes a true and accurate transcript of said deposition.

Armando Correa, M.D..

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SUBSCRIBED and SWORN to before me this day of , 2006 in the jurisdiction aforesaid.

My Commission Expires Notary Public

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DEPOSITION ERRATA SHEET

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RE: SetDepo, Inc.

File No. 10142

Case Caption: Andrew Vitetta, et Al. Vs.

Catholic Health Initiatives of Colorado, et al.

Deponent: Armando Correa, M.D..

Deposition Date: May 12, 2006

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To the Reporter:

I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me. I request that the following changes be entered upon the record for the reasons indicated. I have signed my name to the Errata Sheet and the appropriate Certificate and authorize you to attach both to the original transcript.

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Deposition of Armando Correa, M.D..

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SIGNATURE:_____DATE:_____

Armando Correa, M.D..