A. Correa
#30308

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
STATE OF MISSOURI

RANDALL PARKER AUBUCHON, a minor by and through his mother and next friend, Amanda Aubuchon, et al
Plaintiffs,
vs. Cause No. 002-07578
WASHINGTON UNIVERSITY, et al
Defendants

ORAL DEPOSITION OF ARMANDO G. CORREA, M.D., produced as a witness at the instance of the defendant, and first duly sworn, was taken in the above-styled and numbered cause on the 26th day of August, 2002, at 11:05 a.m. before Bobbie Ames, CSR 205, in and for the State of Texas, reported by machine shorthand, at the Marriott Medical Center, Board Room II, Houston, Texas 77030, pursuant to the Missouri Rules.

A P P E A R A N C E S

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I N D E X

EXHIBITS

NO.	DESCRIPTION
1	Page 5 (13 pages - CV)
2	Page 56 (7-6-2000 letter to Correa from Walther/Glenn (Fahrenkrog) re Background Info on Case)
3	Page 53 (25 pages - 27 pages - Deposition Indexes for Drs. McGann and Gitlin)

REQUESTED DOCUMENTS/INFORMATION

Page 18, Line 13: Copies of Handouts at Trial Lawyers MidWinter Conference Speech in Puerto Rico

CERTIFIED QUESTIONS

(None)

(Marked for identification as Correa Exhibit No. 1)

ARMANDO G. CORREA, M.D.,
having been first duly sworn, testified as follows:

EXAMINATION

Q. (BY MS. BARTOSIAK) Would you state your name, please.

A. Armando, A-r-m-a-n-d-o, middle initial "G," last name Correa, C-o-r-r-e-a.

Q. How old are you?

A. I am 40 years of age.

Q. Forty years old.

My name is Teresa Bartosiak, and I represent St. Louis Childrens Hospital in a lawsuit filed by the Parker Aubuchon family, and I am going to ask you some questions today.

If, at any time you don't understand a question I am asking, please feel free and stop me and I will try and rephrase my question.

Or, if at any time you need a break, just let me know, okay?

A. I certainly will.

Q. Where do you currently reside?

A. I live in Pearland, Texas. It's a suburb of Houston.

Q. And where were you born, sir?

A. I was born in El Paso, Texas.

Q. And did you live, as a child, though, in Mexico?

A. Yes, ma'am, I did.

Q. Okay. And was that your entire childhood or how did that work?

A. My family -- my parents' family lived in El Paso. I went back and forth between northern Mexico and El Paso. The majority of the time was spent in Mexico throughout my childhood.

Q. Is that where you attended school?

A. Yes, ma'am.

Q. Do you have dual citizenship?

A. Yes, I do.

Q. I am going to hand to you what has been marked as Exhibit No. 1.

Is that a copy of your current and up-to-date CV? (Handed).

A. Yes, ma'am, it is.

Q. And do you know if this CV, which I provided today, is any different than the CV that was provided to us through discovery?

A. I would assume it's different in the sense that several things have been added since the time I recall submitting my CV to Mr. Fahrenkrog.

Q. Okay. Can you tell me, off the top of your

head -- and if you can't that's okay -- what has been added to this CV; do you know?

A. Unfortunately, I don't remember when that CV was submitted.

If you happen to have a copy, I will be glad to go over the differences.

Q. Is there anywhere on the CV where it's dated as to when it is updated?

A. No, ma'am, unfortunately, it's not.

Q. Okay. Here is the CV that was provided to us through discovery.

Can you tell me what additions there are to the CV marked as Exhibit No. 1.

A. Yes, ma'am.

This CV reflects what was up-to-date until around October of '99. So, there had been some several additions.

Q. Can you tell me what numbers have been added under what areas?

A. Certainly. Be glad to do that.

In "Other Experience," I have been asked to be the Co-chair of the Committee on Infectious Diseases and Immunizations of the Texas Pediatric Society.

I have also been asked to be a consultant on the Committee for Antibody Usage for Latin America. And

this was through the WHO, World Health Organization.
Q. Okay.
A. And then, finally, I also became a member of the International Activity Committee at Baylor College of Medicine.
Also, since the time you received this CV, I was awarded a prize for excellence in teaching as far as the general pediatric attendant service at Ben Taub Hospital and Baylor College of Medicine.
And I have been added to the listing of the Best Doctors in America on two other occasions besides the one in the present CV.
Q. What years were the two other occasions?
A. One is for the fourth listing in the 1998, and the other is the year 2002 and 2003.
Q. Okay.
A. There are, in addition, four journal articles.
Q. Can you tell me what numbers those journal articles are on the new CV?
A. Yes, ma'am.
They are 17 through 20.
Q. Do any of those journal articles have anything to do with meningitis?
A. Not specifically, ma'am.
Q. What do you mean by "not specifically?"

A. Well, they all have to do with infectious diseases. So being meningitis, an infectious process, they will have something to do.
If they address the area of meningitis? Specifically, I don't believe any of those four do.
Q. Okay.
A. In Book Chapters, there is six additions and these are numbered 6 through 11.
Q. Do any of those book chapters have anything to do with the diagnosis and treatment of meningitis?
A. Yes, they do.
Q. Which book chapters?
A. The additional ones you are asking me specifically?
Q. Right, yes. 6 through 11.
A. No. 7, No. 8, No. 10 and No. 11 all have something to do with meningitis.
I am not sure if No. 9 does too, or at least there may be some reference to it.
Q. Okay. And of those 7, 8, 10 and 11 that have something to do with meningitis, are these, again, like the articles where it's merely meningitis referenced because it is part of an infectious disease you are discussing, or is it more specific than that?
A. It's somewhat more specific than that.

Q. Okay. Since I don't have a copy of the CV, what is No. 7? What is that chapter entitled?
A. Well, this is a chapter that is actually written in Spanish for a textbook in Spanish.
Q. Can you translate it for me.
A. Sure.
It's Coadyuante Treatment of Neonatal Sepsis.
Q. Okay. And are you the author of that chapter?
A. Yes, ma'am.
Q. And what book is that from?
A. It's a neonatal infectious disease textbook that is published in Mexico.
Q. Is there anything in that book chapter specific to infected Cephalhematomas in the development of meningitis?
A. No, ma'am.
Q. Okay. What is book chapter No. 8?
A. It's a chapter entitled Acinetobacter Infections.
Let me spell that word for you. It's a-c-i-n-e-t-o-b-a-c-t-e-r.
Q. All right. And what does that mean, that word mean?
A. It's the name of a bacteria.
Q. What type of bacteria?

A. It is a gram negative bacteria.
Q. And what reference is there in that book chapter to the treatment of meningitis?
A. In that chapter, I discuss the presentation of meningitis due to this bacteria in children and what the treatment for it is.
Q. You don't believe that Randall Parker had that specific bacteria?
A. That is correct.
Q. Okay. Does it have any discussion about infected cephalhematomas in that chapter No. 8?
A. Not that I recall.
Q. Okay. How about No. 9, you said it was questionable.
What is the name of that chapter?
A. The name is Coagulse-Positive Staphylococcal Infections.
Q. And when you say it's possible it has some reference to meningitis, can you give me, in more detail, what the possibility is.
A. Staphylococcal infection is one of the most common infections in children.
Those infections can be anywhere from the skin all the way to the meninges or other organs.
I believe that, in this chapter, we discuss the

possibility of brain abscess and meningitis due to this bacteria in a small portion of the chapter.
Q. Is there any discussion in that chapter on infected Cephalhematomas?
A. Not that I recall.
Q. Do you believe that Randall Parker had this type of staph infection?
A. No, ma'am.
Q. Okay. How about No. 10?
A. No. 10 is entitled Clostridil, c-l-o-s-t-r-i-d-i-l, Intoxication and Infection.
Q. Can you tell me what that is.
A. Yes.
This is a bacteria that causes botulism and tetanus. It's another type of bacteria.
Q. Is there any discussion on infective cephalhematomas in that chapter?
A. I believe there is a reference to infective cephalhematomas in that chapter.
Q. What was that reference to?
A. I mentioned that there has been a description of this bacteria causing infection in a cephalhematoma.
Q. Did you actually cite a source for that?
A. I may have.
Q. So, if I get that chapter I should be able to

find a reference that will show me that the cephalhematoma in some child was infected due to this type of intoxication?
A. That may be the case.
Like I said, I don't remember it exactly if it is included as a reference but that's my understanding.
Q. Okay. But, if it wasn't included as a reference, is that something based on your personal experience?
A. No.
It's just, you know, based on my review of the literature.
Q. Okay. You didn't treat a child who had an infected cephalhematoma due to that type of intoxication?
A. That is correct.
Q. Okay. And you don't believe that Randall Parker had that type of intoxication, I assume, is that right?
A. That is correct.
Q. And what about No. 11?
A. Well, this is a chapter entitled Antifungal Agents.
Q. And what is the reference to meningitis in that chapter?

A. This chapter discusses the treatment of meningitis due to fungi, due to yeast.
Q. And I assume that you don't believe that Randall Parker had meningitis due to this type of fungus?
A. That is correct.
Q. Is there any discussion in that chapter on treatment of infected cephalhematomas?
A. No, ma'am.
Q. Is there anything else added to the CV?
A. There is two additions to the abstracts, No. 6 and No. 7, and neither one of them are in reference to meningitis.
Q. Okay. And are there any other additions to the CV?
A. And finally, on the Invited Lectures, there is 35 additional lectures, and they are 45 through 79.
Q. Were any of those lectures on meningitis treatment and diagnosis?
A. Yes, ma'am.
Q. Okay. Which numbers?
A. It would be No. 46.
Q. Well, while we are there, why don't --
A. No. 53.
Q. Okay. Never mind.

A. Those would be the two.
Q. What was 46 entitled?
A. Forty-six was entitled Maternal Infections in Pregnancy.
Q. And can you give me a general description of what you lectured on with respect to meningitis.
A. Yes.
This was a lecture that I gave on infections in the newborn. And basically, I talked about the mechanism, the diagnosis and the treatment of meningitis in the newborn.
Q. Where did you give this lecture?
A. It was in San Juan, Puerto Rico.
Q. To who?
A. It was to the Association of Trial Lawyers of America MidWinter Conference.
Q. How did you get involved with the Association of Trial Lawyers of America?
A. I was asked to go give this conference.
Q. Asked by who?
A. I believe his name is Dov Apfel.
Q. Can you spell that last name for me.
A. A-p-f-e-l.
Q. Do you know how Doug got your name?
MR. FAHRENKROG: It's Dov, D-o-v.

MS. BARTOSIAK: Oh! I am sorry. I apologize.

Q. (BY MS. BARTOSIAK) Do you know how -- and was that a man or a woman?

A. It's a man.

Q. Do you know how he got your name?

A. No, I don't know.

Q. Do you know how the Trial Lawyers of America makes that up, whether they are plaintiffs or defense lawyers?

A. To be honest with you, at that time, I did not. I was just ...

Q. Do you know now?

A. Yes, ma'am, I do.

Q. Well, what is it?

A. Well, my understanding is that the majority of them are plaintiffs lawyers.

Q. And what were you told when you were asked to give this lecture as far as what your purpose would be?

A. My understanding was that this was a group of lawyers who wanted to know more about perinatal injuries and their mechanism.

And they wanted the medical standpoint regarding neonatal infections and infections in a mother.

Q. Were you told to provide them with information that would assist them in analyzing medical charts when they were considering taking medical malpractice cases?

A. I was not specifically told that.

I was told they wanted the medical perspective on infections in the newborn.

Q. Did you offer any advice, during your lecture to these attorneys, as far as what to look for when they are reviewing a case involving these issues?

A. No, ma'am.

Because I do not have a law background, I really focus exclusively on the medical standpoint.

Q. Well, when you gave this lecture, I assume you give lectures to groups of physicians commonly, is that right?

A. Yes, ma'am.

Q. Did you give this lecture any differently to this group of attorneys than you would to a group of physicians?

A. Yes, I did.

Because I knew that their background may not be very strong in medical science, and I made sure I included a lot of basic information in giving that lecture, simple things as defining what a cytokine is or defining what the inflammatory response is.

You approach it differently when you are in a group of your peers as in a group of lawyers or any other profession.

MR. FAHRENKROG: He tried to limit his words to two syllables for the lawyers' sake.

Q. (BY MS. BARTOSIAK) Did you have any handouts that you provided or an outline?

A. Yes, ma'am.

Q. And do you still have copies of that?

A. I probably do.

Q. So, if I ask Mr. Fahrenkrog to provide me with copies, then, it wouldn't be that difficult for you to locate?

A. Yes, ma'am, that's correct.

Q. Were you compensated for that lecture?

A. I believe that I only received reimbursement for part of my travel expense.

Q. Just part of your travel expenses?

They expected you to come all the way to Puerto Rico and they only paid part of them?

A. They are lawyers.

Q. You didn't receive any type of compensation for the time it took you to put this lecture together, and then, your actual time in giving the lecture?

A. I take that back.

I remember there may have been a stipend given in addition to part of the travel expenses.

But, I used that to offset the rest of the traffic expenses.

Q. Do you have any idea how much the stipend was for?

A. If I remember correctly, $500.00.

Q. All right. Had you ever given any prior lectures to members of the Association of Trial Lawyers of America?

A. No, ma'am.

Q. And would you do it again since they were so cheap?

A. I will make sure that we make prior arrangements before doing so.

Q. Okay. Well, tell me about No. 53.

A. Yes, ma'am.

This was a lecture on Neonatal Sepsis and Adjunctive Therapy as well as Nosocomial Infections in the Newborn.

And this was given in an International Neonatology Conference in Puebla, Mexico.

Q. And can you tell me, in general, what you lectured on with respect to the diagnosis and treatment of meningitis.

A. Basically what the most common organisms were, what the most common presentation was, and what the way of diagnosing and treating is.

Not only treating with antibiotics, but, adjunctive therapies, and some of the options that have been offered for the treatment of these infections.

Q. Is e-coli bacteria one of the most common organisms?

A. In fact, in Latin America, it is the most common organism.

Q. All right.

A. As a cause of neonatal meningitis.

Q. Okay. And as far as presentation as you sit here today, can you tell me what you told the members who were attending your lecture about the presentation?

A. Well, I don't recall exactly, but it basically had to do with what the clinical symptoms of meningitis are.

And that includes irritability, alterations in temperature, poor feeding, neck stiffness, vomiting. Apnea. Alterations in blood pressure, tachycardia, lethargy. Those would be the most common ones.

Q. Did you give any discussion, in your lecture, regarding treatment of infected cephalhematomas?

A. No, ma'am.

Q. Do you have any handouts or an outline from that presentation?

A. No, ma'am, I do not.

Q. Going back to the Association of Trial Lawyers of America lecture that you gave, after that lecture, did you get any work out of it as a consulting expert?

And did anybody that attended the lecture call you?

A. I don't recall specifically somebody saying "Well, because I saw you, I am calling you."

Q. Okay.

A. It is quite possible that that may have been the case since many of these conferences, they publish the name or address of the presenters.

Q. When was that lecture in Puerto Rico?

A. That was January 23rd of 2000.

Q. Well, do you think that your business has gone up in doing expert consulting work since January 23rd of 2000?

A. I think, overall, it has been very similar or slightly higher than it was before then.

Q. When you gave the lecture to the trial lawyers, did you discuss infected cephalhematomas at all?

A. No, ma'am.

Q. I guess since we are already on this topic, can

you go through and tell me if any of your other articles that we haven't discussed, in your opinion, involve treatment and diagnosis of meningitis.

A. Yes, ma'am.

Q. Which numbers?

A. I will give you back your copy. (Handed).

Q. Okay. Thank you.

A. No. 1 is entitled Invasive Aspergillosis, a-s-p-e-r-g-i-l-l-o-s-i-s.

Q. Okay. Well, let's just take these one at a time while we are on it.

Can you tell me, in general, what your discussion is with respect to the treatment and diagnosis of meningitis in No 1.

A. This article reports at least one patient who had meningitis due to this organism.

And we discussed the treatment.

Q. And I assume that you do not believe that Randall Parker had this organism?

A. That is correct.

Q. Did you discuss anything with respect to treatment of infected cephalhematomas?

A. No, ma'am.

Q. Okay. Can you tell me the next one.

A. No. 7 may have a reference to neonatal

meningitis due to syphilis.

Q. And in that article, is there any discussion of treatment of infected cephalhematomas?

A. No, ma'am.

Q. And am I correct that you do not believe that Randall Parker had any type of congenital syphilis?

A. That is correct.

Q. Okay.

A. No. 10 discusses the Management of Meningitis Due to Tuberculosis.

Q. Okay. And in that article, did you discuss anything with respect to infected cephalhematomas?

A. No, ma'am.

Q. And do you believe that Randall Parker had a macrobacterial infection?

A. No, ma'am.

Q. Okay. The next number.

A. I guess the next number is No. 13.

It is a similar article that discusses meningitis due to tuberculosis, and there is no reference to infected cephalhematomas.

Q. And am I correct that you do not believe that Randall Parker had tuberculosis?

A. Yes, ma'am.

Q. Okay.

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A. And the book chapters.
Q. Yes. The same question.
A. No. 1 is the previous version of the same article we had already discussed, the Acinetobacter chapter.
Q. Okay.
A. Chapter No. 2 is also similar to the one we had discussed previously.
Q. Okay.
A. The earlier version of No. 7.
Q. Okay.
A. Article No. 4 is on Tuberculosis.
And again, it's a similar discussion related to tuberculosis, meningitis. And it does not include any reference to infected cephalhematomas.
Q. Okay.
A. Then, finally, on the abstract portion there is no specific one that will involve the issue of meningitis.
Q. Okay. And what about any other Invited Lectures?
A. Yes, ma'am. Lectures No. 1 and No. 3 both have to do with neonatal sepsis in meningitis.
Q. In No. 1 and No. 3, did you have any discussion regarding infected cephalhematomas?

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A. No, ma'am.
Q. Would you still have any of the handouts, or were there any handouts or an outline from No. 1 and No. 3?
A. No, ma'am.
Q. Okay. Then, No. 19 there is a couple of presentations.
One was on Immunoglobulin Treatment of Newborn Sepsis as well as Use of Immunmodulators in Neonatal Sepsis.
Q. And in that lecture, did you have any discussion about treatment of infected cephalhematomas associated with meningitis?
A. No, ma'am.
Q. Did you have any outline or notes or handouts from that lecture?
A. No, ma'am.
Q. Okay.
A. No. 31, which talks about -- Well, there is two talks.
Update in the Management of Neonatal Sepsis.
And there is another one called Meningitis and Verticulitis.
And this was given in the Philippine Pediatric Infectious Disease Society.

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Q. During that lecture, did you discuss treatment or diagnosis of infected cephalhematomas?
A. Not that I remember.
Q. Okay. Were there any -- Was there any outlines, handouts, notes or anything from that lecture that you would still have?
A. No, ma'am.
Q. Okay.
A. And I believe the other ones we have already discussed.
Q. Okay. How long have you been doing expert consulting work?
A. Probably six or seven years.
Q. And in those six or seven years, on average, how many cases do you review a year?
A. It really has changed over the last three years or so.
Initially, it was only one or two cases per year. I would say now it's more in the neighborhood of fifteen to twenty.
Q. Since you gave that lecture in Puerto Rico?
A. No.
Before.
Q. Okay. And the cases that you review, are they all on behalf of the plaintiff?

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A. No, ma'am.
Q. Can you give me a breakdown of percentage, plaintiff versus defendant.
A. Sure.
Overall, it is probably close to fifty-fifty.
Q. When did that change that it wasn't the majority on behalf of the plaintiff, if at all?
A. I don't know. I don't think it has ever been the majority towards the plaintiff.
Obviously, when I first reviewed a couple of these cases, probably the first one or two may have been from plaintiffs.
But, I think all along it has been close to that proportion.
Q. So, you believe that all along, in the last six to seven years while you have been doing expert work, you would estimate, on average, it would be 50% on behalf of the plaintiff and 50% on behalf of the defendant?
A. Yes, ma'am.
Q. What states have you reviewed cases like for litigation or even before when they are considering filing a cases from what states?
A. Obviously, because of geographic reasons, the majority have been here in Texas.

I have reviewed cases in Missouri, Illinois, Georgia, Florida. I believe I have reviewed a case in Louisiana. Utah.

And I have reviewed cases for a lawyer in Minnesota, but, I believe the cases took place in Puerto Rico. And Virginia.

I believe that's my fair recollection at this time.

Q. Okay. And on average, or I guess maybe in the last three years might be a better question, how many depositions would you say that you give in a year?

A. Well, I honestly don't know how many I have given.

Probably the last three years, fourteen or fifteen.

Q. And would that be per year?

A. No.

Q. Okay.

A. Total.

Q. Total, okay.

How about testified at trial in the past three years?

A. Well, if my memory serves me right, two times.

Q. Okay. And when were those trials, do you remember?

A. No, ma'am.

I can tell you the city, but I certainly don't remember the dates.

Q. Okay. What cities were they?

A. One was in Chicago, Illinois. And I hope I included Illinois in the previous discussion.

Q. You did.

A. And the other one was in Waco, Texas.

Q. Did either of those cases involve the diagnosis or treatment of meningitis?

A. Yes, ma'am. The one in Chicago did.

Q. Do you remember the name of that case?

A. No, ma'am, I do not.

Q. Could it have been -- I am going to "butcher" this -- Nicomic versus the Northwest Community Hospital?

A. No, ma'am.

That is a case that I have not testified in court. I have given a deposition in that case.

Q. Okay. How about could it have been Destiny Phillips versus Edgewater Hospital?

A. That's the one in Waco.

Q. That case is in Waco?

A. Yes, ma'am.

Q. All right.

A. That's where the trial was.

Q. Do you remember who hired you in the case in Chicago?

A. It was the law firm of Corboy & Demitrio.

Q. Do you know how to spell that?

A. C-o-r-b-o-y. I believe the other name is D-e-m-i-t-r-i-o.

And it may have been more than three years since that trial took place.

Q. Okay. And do you remember who the defendants were, like the name of a hospital or any of the physicians?

A. Yes.

I remember specifically it was Children's Hospital in Chicago.

Q. You don't remember the plaintiff's name, though, in that case?

A. No, ma'am.

I believe the last name was Mendoza.

Q. Do you remember the names of any of the attorneys for the defendants?

A. No, ma'am.

Q. Do you have an approximation of what year you testified in that trial?

A. Yes.

It must have been around '98 or '99.

Q. Do you know what happened as far as the trial goes?

A. Yes.

That case was settled for some of the defendants, actually settled with the Children's Hospital.

And for the other defendants, it was found in their favor.

Q. A defense verdict?

A. Yes, ma'am.

Q. Okay.

A. And just to clarify, at the time of trial, Children's was no longer a part of the suit.

Q. Okay. And do you remember the names of any of the other defendants who were still in the case at the time of trial?

A. No, ma'am.

Q. Okay. And you said that case involved meningitis.

Can you give me a little bit more information.

A. Yes, ma'am.

This was a young child who developed meningitis due to tuberculosis, and developed a significant injury as a result of that infection.

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Q. How young a child?
A. At the time of his diagnosis, he was a year of age.
And I believe he is now about fourteen.
Q. Of the fourteen to fifteen depositions that you believe you have given in the past three years, are those 50% for the defense and 50% for the plaintiff or do those tend to go one way or the other?
A. No, ma'am.
Those have been, for the majority, generally for the plaintiffs.
Q. Can you give me any kind of percentage for the breakdown or estimate?
A. I can give you a rough estimate. I honestly haven't -- I don't have a list. And I am just pulling it out of my memory.
Q. Sure.
A. But, maybe 75/25.
Q. 75% for the plaintiff?
A. Yes, ma'am.
Q. Do you keep a list of all of the cases where you are retained as an expert witness?
A. No, ma'am, I do not.
Q. Have you ever kept such a list?
A. No, ma'am.

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Q. Have you ever kept a list of the cases in which you have given depositions?
A. No, ma'am, I have not.
I was asked, I believe in a Federal case, to provide a list of the depositions for the last, you know, one or two years. I don't remember the time period.
And that's the only time I have had a list.
Q. Do you still have the list that you provided in the one Federal case?
A. No, ma'am.
Q. Do you remember the name of that case?
A. No, ma'am.
Q. And do you remember, even, where it was pending?
A. It was here in the state of Texas. And I believe it was in the Wichita Falls area.
Q. Do you advertise your services as an expert consultant in any fashion at all?
A. No, ma'am.
Q. Do you know how all of these attorneys get your name?
Do they ever tell you is it just by word-of-mouth, or, do they ever tell you where they get your name?

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A. That is my impression, that it has been mostly word-of-mouth.
And I have heard from a couple of the attorneys that they have gone by their research of the literature, they find my name associated with a specific condition.
Q. Okay. And the cases that you have reviewed in Missouri, have those been in the St. Louis area?
A. To be honest, I am not familiar with the geographic locations of the cities, but I believe they have been close to St. Louis.
Q. Okay. How many cases do you think you have reviewed involving the State of Missouri?
A. That I have reviewed at different stages?
Q. Right.
A. I believe four.
Q. Have you, other than this case, ever been retained to review a case by the Walther/Glenn Law Firm?
A. Yes, I have.
Q. How many other times?
A. One time.
Q. Is that case still going on or is it resolved, do you know?
A. My understanding is that it is resolved.
Q. And did you have to give a deposition in that case?

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A. Yes, I did.
Q. Do you remember the name of that case?
A. No, ma'am, I do not.
Q. Do you remember any of the defendants' names in that case?
A. No, ma'am.
Q. You don't remember the hospital, the doctors, anything?
A. No, ma'am, not specifically. I am sorry.
Q. And the plaintiff, do you remember his or her name?
A. No, ma'am.
Q. How long ago was it?
A. It was probably about three years ago.
Q. I assume you didn't have to testify at trial, is that right?
A. That's correct.
Q. Were you working directly with Mr. Fahrenkrog or someone else with his firm?
A. No.
I was working with one of his partners.
Q. Who was that?
A. Mr. Larry Glenn.
Q. Do you remember what the case involved as far as the allegations?

A. If I remember correctly, it was a case of newborn infection with – It may have been meningitis.
And the allegation was that of delay of diagnosis and treatment.
Q. And I know I have asked you this but, you have no idea what hospital it involved at all?
A. I am sorry, but I do not.
Q. Okay. All right. The three other cases that you have had in Missouri, are you counting this case as one of those?
A. Yes, ma'am.
Q. And what about the two other cases, are they ongoing?
A. In those two cases that I reviewed, I found no evidence, in my opinion, of deviation in the standard of care or abnormalities.
Q. And do you know what law firms retained you on the two other cases?
A. I guess I wouldn't use the word "retained" because...
Q. Or asked you to review them?
A. Or asked to review the case.
Yes, it was Mr. Fahrenkrog.
Q. Okay. I guess I am confused. I apologize.
Have all four of your cases in Missouri been

through Mr. Fahrenkrog's firm?
A. That is correct.
Q. Okay. So, we have the two cases where you didn't find any evidence of any negligence, one case with Larry Glenn, and then, this case, is that right?
A. That is correct.
And those two cases were also referred to me by Mr. Glenn.
Q. Okay. Do you know how Mr. Glenn or Mr. Fahrenkrog got your name?
A. No, I do not.
Q. Do you know if Mr. Glenn or Mr. Fahrenkrog were in Puerto Rico at the seminar?
MR. FAHRENKROG: I knew that was coming.
THE WITNESS: I do not know if Mr. Fahrenkrog was in Puerto Rico.
Q. (BY MS. BARTOSIAK) What about Mr. Glenn?
A. I remember him being in Puerto Rico, because he asked me a question about my presentation.
MR. FAHRENKROG: But, you had the relationship with Mr. Glenn before Puerto Rico, as I understand it.
THE WITNESS: That is correct.
Q. (BY MS. BARTOSIAK) How long does it go back, your relationship with Mr. Glenn?

A. I would say probably three years.
Q. Did you have a case where you had reviewed for Mr. Glenn before the seminar in Puerto Rico?
A. It is possible that that case that I had mentioned, where I testified, I had reviewed it before I testified in Puerto Rico.
Q. Well, when Mr. Fahrenkrog asked you the question of you had the relationship with Mr. Glenn before Puerto Rico, and you answered yes, you had a prior relationship, what did you base that on?
A. Based on remembering having talked to him.
In fact, I had talked to him on the phone, and that's when in the meeting in Puerto Rico, I was able to put a face to a voice.
Q. Okay. So, you had talked to Mr. Glenn before the seminar in Puerto Rico about reviewing a case?
A. That is correct.
Q. Okay. Are you and Mr. Glenn what you would consider friends?
A. No, ma'am.
All of our association has been business related.
Q. Okay. Did you guys go out and party together in Puerto Rico?
A. (Shook head).

Q. I am just kidding.
MR. FAHRENKROG: She's insatiable.
Q. (BY MS. BARTOSIAK) And you don't know if Mr. Fahrenkrog was in Puerto Rico or not?
A. I do not know.
Q. Okay. Have you reviewed any other cases for anyone in Missouri?
A. No, ma'am.
Q. Okay. Your Illinois cases, are those also with the Walther Glenn Law Firm?
A. No, ma'am.
Q. Are any of your Illinois cases with Walther Glenn?
A. No, ma'am.
Q. Okay. Do you know enough about the Illinois cases to tell me if they involve the north part of the state, like Chicago or if any involve southern Illinois?
A. If I understand correctly, they involved the north part, the Chicago area.
Q. All right.
A. Or close by.
Q. Okay. In the cases where you have actually given deposition testimony, other than the one in Chicago, have any of the other cases involved the diagnosis or treatment of meningitis?

A. (No answer).
Q. Just the ones where you have had to give a deposition.
A. In Chicago?
Q. No, no.
A. In general.
Q. I am talking about any of them. Any of them, if you remember.
A. It is probably, yes. The answer is probably, yes.
Q. Okay. As you sit here today, can you tell me do you have a memory of any of the cases where you have given a deposition where it involved the treatment or diagnosis of meningitis other than in the Chicago case?
A. Yes. There is another case in Chicago.
It is -- I have given a deposition in that case, and I believe the name of the lawyer, the plaintiff lawyer, is Phillip Mahar, M-a-h-a-r.
MR. FAHRENKROG: "E-r."
THE WITNESS: "E-r."
Q. (BY MS. BARTOSIAK) And do you remember the name of that case?
A. No, ma'am.
Q. Or, do you remember the name of the plaintiff?
A. Tomzk.

Q. How do you spell that?
A. T-o-m-z-k.
Q. And do you remember the names of any of the defendants, like the hospitals or the physicians?
A. No, ma'am.
Q. Is that case still pending?
A. I have not heard from their law firm in a long time, but my understanding is that it is still.
Q. How long ago did you give the deposition?
A. Well, three years ago.
Q. All right. And what were the allegations in that case?
A. I do not recall the details.
Q. Okay. You just know that it involved meningitis?
A. Yes, ma'am.
Q. Okay. Did it involve anything to do with an infected cephalhematomas?
A. No, ma'am.
Q. Have you ever had a case that you have reviewed, whether you have given a deposition or not, involving an infected cephalhematoma other than this case?
A. No, ma'am.
Q. Where did you go to medical school?

A. I went to school at Monterrey Institute of Technology.
Q. And where is that located?
A. It's located in northern Mexico, in the City of Monterrey, Mexico.
Q. And how long a program is that?
A. That is a seven-year program.
Q. All right. And you graduated in 1987, is that right?
A. Yes, ma'am.
Q. All right. And then, were you licensed in Mexico in 1987?
A. Yes, ma'am.
It was part of a -- It is somewhat of a different process, but just from finishing medical school, you get a professional license.
Q. Okay. And then, did you come to the United States for an internship?
A. Yes, ma'am.
Q. And did you have to become licensed in the United States?
A. Yes, ma'am.
I had to pass tests in order to be licensed in the United States and be able to go into residency.
Q. Okay. And where did you do your internship?

A. Both my internship and residency was at the Children's Hospital of Austin at Breckenridge in Austin, Texas.
Q. And you completed your residency in 1991, is that right?
A. Yes, ma'am.
Q. Okay. And then, you went on to do a Fellowship?
A. That is correct.
Q. And was the fellowship in pediatric and infectious diseases?
A. Yes.
That was here at the Baylor College of Medicine.
Q. Okay. And you completed that in 1993?
A. Yes, ma'am.
Q. And then, what did you do after you completed your fellowship?
A. Since that time, I became a member of the faculty and am currently an Assistant Professor in the Department of Pediatrics here at the Baylor College of Medicine.
For one more week.
Q. And what does that mean?
A. I am in the process of relocating up the river

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from you guys to Minnesota.
Q. That's way "up the river."
A. (Nodded head).
Q. Okay. And where are you going to be going in Minnesota?
A. I will be part of the faculty at the Mayo Clinic in Rochester, Minnesota.
Q. And what will your position be at the Mayo Clinic?
A. It will be Senior Associate Consultant for the Mayo Clinic and Associate Professor of Pediatrics for the Medical School.
Q. As Senior Associate Consultant, what does that mean?
A. It basically means that I am coming in to be part of their senior faculty, and provide patient care and expertise in pediatric infectious diseases.
Q. And you are going to be going there in one week?
A. I will complete my job here in one week, and I will be starting at the Mayo Clinic in October of this year.
Q. And as an Associate Professor of Pediatrics for the Medical School, will you be responsible for teaching residents and interns?

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A. Yes, ma'am.
Q. Okay. And why are you relocating to the Mayo Clinic?
A. There is a number of reasons, but it's mostly a great opportunity to go work at one of the finest institutions in the country.
I was recruited by them because of my expertise in pediatric infectious diseases, and my advantage of connections in Latin America and other Spanish speaking countries to go and foster a relationships with them.
And then, finally, there is some family reasons. It is a beautiful and small community that offers many advantages.
Q. Okay. Who recruited you?
A. Mayo Clinic.
Q. Who, at Mayo Clinic, in the Infectious Diseases Department?
A. Her name is Nancy Henry.
Q. Is she a physician?
A. Yes, ma'am.
Q. Does she specialize in pediatrics and infectious diseases?
A. Yes, ma'am.
Q. Was anyone else part of the recruiting team from Mayo?

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A. Yes, ma'am.
Q. In infectious disease?
A. Yes, ma'am.
In fact, the head of the recruiting team was a Dr. Phillip Fisher.
Q. And is he a pediatric infectious disease physician?
A. I believe he -- He doesn't have an infectious disease; he has a travel medicine specialty.
Q. Were there any other physicians who specialize in pediatric infectious diseases that were part of recruiting you?
A. Yes, ma'am.
There were two more physicians. Charles Huskin, and Tom -- and I apologize. I am blanking on his name.
MR. FAHRENKROG: You can recall it if you think of it.
THE WITNESS: I will.
Q. (BY MS. BARTOSIAK) He is in the Pediatric and Infectious Disease Department at Mayo?
A. Yes, ma'am.
Q. Anyone else?
A. There is Tom Boyle.
Q. Thank you.
Are you aware of Mayo's policy on its physician

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doing any type of expert consulting?
A. Yes, ma'am, I am.
Q. What have you been told that policy is?
A. The policy it that typically they are not allowed to do it on their own unless they are asked specifically by the Mayo Legal Department.
Q. Have you advised them that you have many pending open cases where you are acting as an expert?
A. Yes, ma'am, I have.
And they were -- They did understand that was one of the, I guess, conditions of me accepting this job, that I would have to complete the cases that were already pending.
Q. Okay. Will your practice, in any way, have any significant change with respect to your specialty or what you do between what you do here in Texas and what you will be doing at Mayo?
A. My understanding is no.
Q. Okay. And tell me what does your practice consist of here in Texas?
A. My practice consists of, first of all, providing patient care. The diagnosis, treatment and management of infectious or potentially infectious processes in children.
It consists of the development and application

of preventative measures for infectious processes in children.

It also includes teaching the medical students, residents, fellows and other members of the house staff.

It involves doing a small amount of administrative and research work.

Q. What percentage of your time would you say is spent on patient care?

A. As you may be aware, patient care and education many times, go together.

But, I would say patient care represents 75 to 80% of my time.

Q. And of that 75 to 80%, what percentage would you say involved treatment of neonates?

A. A significant part of that. At least half of it.

Q. Of your practice here in Texas, can you give me any type of estimate as to the number of neonates that you diagnose and treat meningitis?

A. Yes.

And I had a few seconds to think about the previous question.

Q. Okay.

A. I did say it was a significant part. It's probably not as high as 50%. It may be more in the

neighborhood of 40%.

Q. Okay. That's fine.

A. I apologize for that.

We are the largest newborn nursery in the country. And unfortunately, we have a high incidence of meningitis just because of the number of patients that we have.

So, in any given month, I see anywhere from two to ten cases of meningitis anymore.

Q. Have you ever treated an infant for meningitis which you believe resulted from an infected cephalhematoma?

A. (No answer).

Q. I am talking about your entire career.

A. I may have in one or two occasions.

But, I don't recall any specific times doing so.

Q. Okay. Well, do you agree with me that infections of cephalhematomas resulting in meningitis would be extremely rare?

A. I would agree with you that they are rare.

Q. In fact, are you familiar with any of the literature as to the percentage of infected cephalhematomas that were thought to have led to meningitis as to any of the percentages?

A. I am not aware of any literature of giving that specific citation.

I am aware of a recent article that reviewed the subject.

Q. What article is that?

A. Well, it's an article that appeared in the year 2000. And I believe the last name of the author is Hawkins.

Q. What do you remember with that article regarding infected cephalhematomas in meningitis?

A. That it basically talks about their experience with one patient.

And they review the number of cases that have been reported in recent years.

Q. And in the review of the number of cases, do you remember the percentages as to the number of cases that they found involving infected cephalhematomas in meningitis?

A. No.

Q. Okay. In that article, was there a discussion of treatment for infected cephalhematomas?

A. Yes, there is.

Q. And in that article, did it state that, in fact, treatment of infected cephalhematomas through aspiration is discouraged?

A. Well, I do not recall the specifics of that article.

Q. Okay. Well, do you remember what the article said at all with respect to treatment?

A. Not specifically.

Q. So, as you sit here today, you do not remember ever treating a neonate who had an infected cephalhematoma, which you believe eventually led to meningitis; is that true?

A. That's correct.

Q. Can you tell me what you believe the percentage of neonates who end up with a cephalhematoma is?

A. No, ma'am.

I do not know that number.

Q. Do you have any idea what percentage of newborns end up with a cephalhematomas?

A. I would say a relatively small percentage. I would "guesstimate" maybe 3 to 5%.

Q. Would you be surprised if there is literature out there indicating that, in fact, the percentage is lower, 1 to 2%?

A. No, I would not be surprised.

MR. FAHRENKROG: Can I clarify.

Is that 1 to 2% of all the neonates or just those who had vacuum extraction?

MS. BARTOSIAK: All neonates.
MR. FAHRENKROG: Okay.
Q. (BY MS. BARTOSIAK) Can you, for the record, tell us what you were provided with as far as depositions and medical records.
A. I will be glad to.
I was provided with records from Dr. John Grechus.
Q. "Grechus."
A. "Grechus?"
Q. Yes.
A. I was provided with records from Parkland Hills Hospital.
Q. "Parkland?"
A. Parkland, yes.
Q. Okay.
A. And I was provided with records from Dr. Jay Hof, H-o-f. I was provided the records from St. Louis Children's Hospital.
Q. Both admissions or...
A. Yes, ma'am, both admissions.
Q. All right.
A. I was provided with the deposition and index for Dr. Jonathan Gitlin, Dr. Connick and Dr. McGann.
And I was provided with a copy of the Third

Amended Petition.
Q. Okay. Were you provided with any other depositions other than the three that you have told me?
A. No, ma'am.
(Marked for identification as Correa Exhibit No. 3).
Q. (BY MS. BARTOSIAK) Okay. And I am going to hand you to you what has been marked as Exhibit No. 3.
And can you tell me what those are.
A. Yes, ma'am.
This is the deposition index for the three depositions previously mentioned.
Q. Check that. I think there may be only two.
A. There is just the two of them.
Q. Which ones?
A. Dr. McGann and Dr. Gitlin.
Q. Okay. And I think there is another index in there, but I pulled those out because you had notes on them. That's why.
A. Okay.
Q. Okay. Do you have notes on those deposition indexes?
A. No, ma'am.
Q. All right. Can you take a look, because I think that's why I marked it, that you had or somebody

has handwritten notes.
A. Yes.
These are notes that were part of the records that were sent. (Indicating).
Q. Okay. So, those are not notes on Exhibit No. 3 that you made per se?
A. That is correct. That's right.
Q. Okay. Do you know who made those notes?
A. No, ma'am.
Q. All right. Do you have any notes on any of the medical records, depositions or anything else that you have been provided?
A. No, ma'am.
Q. Okay. Do you have any handwritten notes anywhere on this case?
A. No, ma'am.
Q. Did you ever ask Mr. Fahrenkrog or anyone from his office who made these notes on the deposition indexes?
A. No, I did not.
MR. FAHRENKROG: If you can't read it, it's probably my signature.
MS. BARTOSIAK: Okay.
Q. (BY MS. BARTOSIAK) These notes seem to reference, potentially, some depositions, but I am not

sure.
Can you tell what they are referencing?
A. They appear to be referencing to the medical records specifically.
Q. Okay.
A. But...
Q. So, the numbers on there reference the paginated set of the medical records, is that right, Doctor?
A. Well, I mean, to be honest, I am stretching it a little bit.
Q. Okay.
A. When I reviewed these documents, I really actually reviewed the depositions, and did not rely on this part. (Indicating).
Q. All right. You did not --
A. So, I don't know what it really means.
Q. Okay.
A. I prefer not to give an opinion.
Q. Okay. So, you didn't go and -- Where it has handwritten notes, and then, says "page whatever" of the medical records, you didn't go back to the medical records and look at that page to see if, in fact, it says what is contained in those notes, is that right?
A. That is correct.

Q. Okay. Can you hand me that. (Indicating).
A. (Handed).
(Marked for identification as Correa Exhibit No. 2).
Q. (BY MS. BARTOSIAK) I am handing you what has been marked as Exhibit No. 2.
Can you identify that for me?
A. Yes, ma'am.
These are a number of letters that I have received from the firm where Mr. Fahrenkrog is employed.
Q. Okay. Is that an exhibit to all of the correspondence which you have received from the Walther/Glenn Law Firm?
A. Yes, ma'am, it is.
Q. Okay. Do you have any invoices for your work that has been done in this case?
A. If I remember correctly, the only amount of money that I have received was the initial retainer charge.
Q. And how much was that for, sir?
A. That was a thousand dollars.
Q. And have you already gone through -- What does that get you, for a thousand dollars?
A. About three-and-a-half hours.
My regular fee is three hundred dollars for a

review of the records.
Q. Okay. And have you spent time beyond the three-and-a-half hours?
A. Yes, I have.
Q. Okay. And have you kept track of that time somewhere?
A. No, ma'am.
Q. So, how do you know how much additional time you have spent?
A. Well, I know in my mind.
Q. Okay. And how much additional time have you spent?
A. Before the deposition, an additional three hours.
Q. Okay. So six and-a-half hours on this case is the time that you have spent?
A. Yes, ma'am.
Q. And that includes reviewing all of these medical records and all of the depositions?
A. Yes, that's correct.
Q. Okay. And you have not submitted a bill to Mr. Fahrenkrog for those fees?
A. That is correct.
Q. Do you plan to?
A. Yes, ma'am.

Q. All right. And how much do you charge for a deposition?
A. $500.00 an hour. That's our standard Baylor fee.
Q. And does that money -- The $500.00 an hour you said is the standard Baylor fee, does that money go directly to you personally?
A. Yes, ma'am.
Q. And how about trial testimony, how much do you charge?
A. The more recent schedule in cases is $600.00 an hour.
Q. And do you expect to be reimbursed fully for your travel expenses?
A. Yes, ma'am.
Q. And you might want to require a retainer on that.
Okay. Can you tell me what opinions you have with respect to causation in this case?
A. Yes, ma'am.
It is my opinion that this case involves a series of events that led to the ultimate tragic outcome of deafness and neurologic compromise.
In my opinion, these events began with the introduction of a bacteria called e-coli which was

introduced at the time of birth, close to the time of birth during the perinatal period, through a scalp electrode.
This bacteria then gained access to the cephalhematoma. And at that time, is when it first gave clinical manifestations.
After setting up in the cephalhematoma, the bacteria was partially treated by the administration of antibiotics for a period of four to five days.
And after the discontinuation of the antibiotics, it returned then leading or progressing to meningitis and the infection and inflammation of the membranes that cover the brain.
And this inflammation is what led to his deafness.
Q. All right.
A. And other neurologic involvement.
Q. Okay.
A. That, in a nutshell, is my opinion.
I guess if we are speaking as to causation, it is also my opinion that had appropriate antibiotics in management of this infection occurred before February 11, it is more likely than not that his neurologic outcome would have been completely normal.
Q. All right.

A. Not only appropriate antibiotic in management but, any situation that would have broken this chain of events.

But, by that, I mean if the cephalhematoma had not formed, or if the scalp had not been pierced, that would have, more likely than not, disrupted this chain of events.

Q. All right.

A. Similarly, timely and appropriate treatment of this infection at the time of the first admission on January 31st, would, more likely than not, have interrupted the progression of an infected cephalhematoma to a full blown meningitis.

Q. Okay. Is that your opinions, in general? And I will go back and ask you specific questions. But would that be in general?

A. Yes, ma'am.

Q. Okay.

MR. FAHRENKROG: Let me say, for the record, that I think we also said in disclosure of expert memorandum that he had some opinions on standard of care and departure, but he does only with respect to subjective standard of care and departure.

He will not be testifying at trial regarding any objective standard of care departure. That is, he

will not be testifying that he feels that Defendant "X" departed from standard of care by doing A, B and C.

If asked, he does have opinions of what he would have bone in that particular scenario, which I would label as a subjective standard of care.

I hope that clarifies the issue.

MS. BARTOSIAK: Clearly. Okay.

MR. FAHRENKROG: Just it is not in the disclosure.

MS. BARTOSIAK: In fact, it is anticipated the Doctor will render opinions as to causation and damages as to all defendants.

MR. FAHRENKROG: Well, let me say this, then.

If you wish to inquire of him in that manner, you are welcome to do so.

And I will stipulate that that will not, in any way, waive any objections that you would have as to his testifying as to the subjective standard of care at the time of trial, and that that would be preserved for you to bring up at an appropriate time to prevent him from doing that.

MS. BARTOSIAK: Okay. Can we take a two-minute break real quick.

MR. FAHRENKROG: Sure.

(Break had).

Q. (BY MS. BARTOSIAK) Can you tell me where you believe the e-coli came from that led to this baby's meningitis?

A. Yes, ma'am.

It's very likely that it came from the maternal florae. This mom was heavily colonized with e-coli. Not only did she have it in her urine, but she probably had it in her genital tract also.

Q. And what do you believe was the route of transmission of the e-coli from the mother to the baby?

A. It was probably through the break in the skin that occurred when the electrode was placed.

Q. Are there any other possibilities for how the e-coli could have been transmitted to the infant from the mother?

A. Certainly.

We know that transmission can also occur at the time of the passage through the birth canal. And that involves colonization of the GI tract or the umbilical cord site.

Q. Any other possibilities in your mind?

A. A more remote possibility is that the bacteria was present in the mother's bloodstream, and that in one way or another it was able to reach the fetal

bloodstream and lead to bacteremia in the newborn.

Q. Are you willing to testify, to a reasonable degree of medical certainty, that you believe the e-coli was transmitted from the mother to the infant through the breakdown in skin in the scalp electrode?

A. Yes, ma'am.

I will testify that it is more likely than not that it was transmitted from the mother, and that the transmission occurred at the site of the fetal electrode placement.

Q. And what basis do you have for determining that in your opinion, it came from a scalp electrode versus the other two ways that you have described?

A. First of all, it's the susceptibility of the e-coli.

It has the exact same pattern of susceptibility in the mother than in the baby. That indicates that it is the same e-coli.

Second, is the fact that this baby developed a localized infection at the site of this hematoma at the site where the scalp electrode had been placed, and that there was no evidence of bacteremia by blood cultures in the baby.

Q. When you say that the baby had a localized infection at the site of the hematoma, what are you

referring to there?
A. I am referring to the subgaleal abscess that was eventually drained at the St. Louis Children's Hospital.
Q. At the scalp electrode site, when the baby went to Children's Hospital, did you review a description of what the scalp electrode site looked like?
A. I don't recall specifically at St. Louis Children's.
I know there is a description of a scalp lesion, but, I do not recall the specifics of what their description was.
Q. Okay. Were there any signs of infection at the scalp electrode lesion?
A. No, there were not.
Q. Was there any type of hematoma at the site of the scalp electrode lesion?
A. If you allow me for a second. (Indicating).
Q. Sure.
A. And if you would be kind enough to clarify what time you are asking.
Q. Well, I am talking about when the baby entered the St. Louis Children's Hospital on the first admission.
A. It is just described as a positive abrasion at

the occiput questionable scalp electrode site.
Q. So, was there any hematoma at the site of the scalp electrode where the lesion was during the first admission at Children's Hospital?
A. Well, there was a presence of an cephalhematoma.
Unfortunately, I don't have a drawing that will tell me if it was, indeed, over this site or not.
Q. Okay. So, as you sit here today, do you know whether the cephalhematoma, in fact, encompassed the area where the scalp electrode lesion was?
A. I do not know that at this time.
Q. Where was the cephalhematoma during the first admission at Children's Hospital?
A. The records only mention a positive cephalhematoma, but they don't give a specific location as to where it was.
Q. Okay. So, as you sit here today, based on your review of the medical records and the deposition testimony, do you have an understanding of where the cephalhematoma was located?
A. Yes, I do.
Q. And where was it located?
A. It is my understanding that it was located on the right side.

Q. All right. On the right side of what?
A. Allow me to get this for a second. (Indicating).
Q. Okay.
A. I can't locate that.
MR. FAHRENKROG: (Indicating). (Discussion en soto).
Q. (BY MS. BARTOSIAK) So, has Mr. Fahrenkrog assisted you in pointing to a specific place in the medical records?
A. Yes, ma'am.
MR. FAHRENKROG: Page 38.
MS. BARTOSIAK: Page 38.
THE WITNESS: Which one?
MR. FAHRENKROG: (Indicating).
THE WITNESS: Okay. It says: "Bilateral occipital parietal area."
Q. (BY MS. BARTOSIAK) Okay. And where is that area? Describe it for me.
A. That is the area superior and posterior to the ear.
Q. Okay. Can you show me, on your head, where that area would be?
A. Okay. I will be glad to. It is this area. (Indicating).

Q. Okay. So, you are pointing above your ear?
A. Superior and posterior.
Q. Okay. Towards the back of the head?
A. Yes.
Q. Do you have any idea how large the cephalhematoma was?
A. No, ma'am.
It's just reported as a large soft tissue accumulation.
Q. Okay. So, when you testified earlier that you believe the e-coli came from what was transmitted from the mother to the baby through the scalp electrode, and I asked you why you said localized infection at the site of the hematoma at the site where the scalp electrode was, what did you mean by that since you don't know whether the hematoma encompassed the scalp electrode area?
A. Yes. Thank you for allowing me to clarify that.
A localized infection at the site where the hematoma is what my -- what indicates to me that that was the route of the transmission.
You are, indeed, correct. There is no indication that there was a specific infection right at the site where this electrode was placed.

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Q. Okay. Thank you for trying to clarify that for me, but I apologize. You lost me.

So, you agree that there was no sign of infection at the scalp electrode site, itself, during the first admission, is that right?

A. That is correct.

Q. Okay. So, what basis do you have for testifying that the transmission went from the scalp -- through the scalp electrode site from the e-coli from the mother to the baby?

A. And what I would -- What would indicate to me that that was a macunus transmission was the fact that this child developed a localized infection at the site of the cephalhematoma with a bacteria with the same susceptibility pattern as the mother and without evidence of systemic involvement which discounts the possibility that this was a hematogenous transmission.

Q. So, in your opinion, the e-coli could not have been transferred from the mother to the baby through the bloodstream or birth canal without evidence of systemic involvement?

A. (No answer).

MR. FAHRENKROG: Objection to the form. It's compound.

THE WITNESS: I don't think I have said

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that it's not possible.

I think that it is significantly less likely that that was the route of transmission.

Q. (BY MS. BARTOSIAK) Okay. And what, in your opinion, makes it more likely through the scalp electrode was the route of transmission?

A. Again, the fact this was a localized infection to the skull or the area around the skull, and the fact that there was no evidence of systemic involvement.

If this bacteria had been transmitted by the bloodstream or by colonization of the umbilical stump, then, I would have expected that the bacteria would have to travel in the bloodstream in order to get to that cephalhematoma in order to eventually cause meningitis.

And we have no evidence that that was the case.

In fact, the blood cultures, on both occasions, were negative.

Q. Okay. And what about through the birth canal; would that same analysis apply?

A. Oh, yes.

The birth canal -- The transmission from the blood canal is similar to what you have when you have colonization of the umbilical stump or colonization of GI tract, that it is just -- that is the mechanism.

The baby first gets colonized somewhere in his

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respiratory tract, or his GI I tract or in the skin, and then, the bacteria gains access to the bloodstream and goes to the site where the infection will eventually manifest.

That is the most common route in which we see children develop meningitis.

Q. Okay. So, if this baby had been transmitted the e-coli from the mother through the birth canal, you would have expected the blood work to have been positive, is that correct, during the first submission?

A. That is correct.

The blood culture.

Q. Okay. And the same would be true; you would expect the blood cultures to be positive during the first admission if the transmission route was through the mother's bloodstream to the infant, is that right?

A. Yes, ma'am, that's correct.

Q. Are you, in any way, critical of the decision to use a scalp electrode?

A. I do not have an opinion.

Q. How do you believe that this baby ended up with a cephalhematoma?

A. It is my opinion that most likely the cephalhematoma was related to the use of a vacuum extractor and complicated by a difficult delivery.

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Q. And what was it about the use of the vacuum extractor that makes you believe that was the most likely cause of the cephalhematoma?

A. It is a well recognized association of the use of vacuum extractors and the development of cephalhematomas and/or CAPUT.

Q. Okay. And when you say "complicated by a difficult delivery," what were you referring to?

A. Oh, I was referring to the fact that this was a delivery that took a longer-than-expected time for delivery.

What I am trying to refer to is the reason why the vacuum extractor was used.

Q. Okay. So, you believe that the vacuum extractor was used because the delivery was taking longer than expected?

A. Well, no, no.

I guess that would not really fall into what my testimony is.

What I am trying to say is there was some complications of the delivery that made the delivering obstetrician make a decision to use a vacuum extractor.

Q. Okay. And do you know, as you sit here today, what those complications were, and why he used the vacuum extractor?

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A. No, I do not.
Q. Okay. Is development of a cephalhematoma a known complication of the use of a vacuum extractor?
A. Yes, ma'am.
Q. During your residency, did you do an OB rotation?
A. Yes, I did.
Q. Have you ever used a vacuum extractor?
A. I have seen it used.
I don't remember personally using it.
Q. Okay. And what about a scalp electrode, did you ever use one of those during your rotation?
A. Yes, ma'am.
Q. Do you believe that the potential for transmission of infection through the site of a scalp electrode is a known complication in the use of a scalp electrode?
A. Yes, ma'am.
Q. Okay. And are you prepared to offer any opinions with respect to the use of the vacuum extractor in this case?
A. No, I am not.
Q. When it was appropriate?
A. No, I am not.
Q. All right. Explain to me what you believe is

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the mechanism for the e-coli gaining access to the cephalhematoma.
A. There is a small number of possibilities.
One would be actually a direct access.
If the scalp electrode was placed and got in contact with the periosteum of the skull, then, it is possible that the bacteria was directly introduced to that site.
In addition, if the bacteria was just introduced to the skin -- and by "introduced," I mean either directly from the electrode, or because of the opening that the electrode left, then, it could have gotten there by direct extension, or by the dissemination through the lymphatic channels.
Q. Any other possibility?
A. A less likely possibility is that the bacteria gained access to that hematoma through the bloodstream.
Q. Of the three possibilities that you have given as a mechanism for how the e-coli was transmitted to the cephalhematoma, are you prepared to offer one of those opinions as your opinion as to what happened in this case to a reasonable degree of medical certainty?
A. I am prepared to say that more likely than not, it was due to direct extension, either straight from the electrode or from the surrounding tissue.

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Q. And what is the reason that you believe that that route would be more likely than the other two possibilities you have given us?
A. Well, I do want to clarify that.
That really includes two possibilities.
One is direct and the other is extension from a close-by area.
But, the other two possibilities, hematogenous is spread through the blood is less likely because, again, we did not have evidence of systemic infection and we did not have positive blood cultures.
And the fourth one is also less likely, because the lymphatic drainage in that area would not favor that explanation.
Q. Okay. I think our numbering is a little different.
I had, as No. 1, if direct access as the scalp electrode was placed in, you know, direct contact with the skull.
You believe that that one was unlikely in this case?
A. No, ma'am.
I think that is one of the two likely possibilities.
Q. Okay. So, when you talked about direct from

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the electrode or an opening direct extension, you were talking about the scalp electrode being placed in contact with the skull?
A. Well --
Q. Because I had those as two separate ones.
A. Yes. No.
Well, I do have them as two separate possibilities.
Q. Okay.
A. But, together being the most likely scenario.
So, what I am saying is:
One, the electrode actually carried the bacteria directly into the cephalhematoma.
The other one is the electrode or the opening that the electrode left, allowed for the bacteria to multiply in an area adjacent to the cephalhematoma, and eventually the bacteria was able to track into the cephalhematoma.
Q. In your opinion, those are the two most likely ways that this occurred?
A. Yes, ma'am.
Q. Okay. Do you have an opinion, to a reasonable degree of medical certainty, between those two, which one of them most likely occurred in this case?
A. No, ma'am.

It is not possible to determine that.
Q. Okay. And why is it not possible?
A. Because there is no clinical evidence to favor of one or the other.
We would have had to have an autopsy and be able to see the tract, itself, or the abscess, itself.
Just based on what the clinical picture is, I can only say that one of those two was the most likely mechanism.
Q. For the theory that it came through the opening or was allowed for bacteria in an area to multiply adjacent to the cephalhematoma, and eventually track into the cephalhematoma, is there any clinical evidence that you can point to to support that opinion?
A. No, ma'am.
I tried to clarify that there is no clinical evidence to point to one being more likely than the other.
Q. Okay. But, what about is there any clinical evidence in support of either of those two theories?
A. Yes.
And, it's, again, what I have explained before that there was no indication of systemic involvement to account for a hematogenous route.
Q. Okay. So, other than the negative blood

cultures, is there any other clinical evidence?
A. No, ma'am.
Q. For the scalp electrode to be placed in direct contact with the skull, how far would the scalp electrode have to be pushed in?
A. Well, I am not an expert on the subject, but, I understand that the distance between the bone and the skin at the area of the skull is incredibly small. We are talking about milliliters.
So, I don't think it would be a significant distance that it would need to be pushed in.
Q. If the scalp electrode had made direct contact with the skull, as one of your theories, would you expect to see anything on radiographically or in any other way to demonstrate that?
A. No, ma'am.
And I do want to clarify that my theory says that it would get to the cephalhematoma, not necessarily the skull, although the cephalhematoma in this case was part of the skull.
Q. Okay.
A. But, there was evidence that --
Q. Okay. Wait a minute.
Mr. Fahrenkrog has just recently pulled out of his copy of the records a highlighted page 9.

Did that somehow assist you in responding to my question?
A. Well, it has not yet.
Q. Okay. What is it that you were wanting to say, to add to it?
A. Well, I was going to clarify that there was radiographic evidence of a fracture or a fissure in the skull.
But, that does not indicate that it was from the electrode.
Q. Do you have any opinion as to what was the cause of that fissure?
A. Yes.
It is my opinion that that was the result of the traumatic delivery.
Q. So, in fact, it's your opinion that you don't believe that that fissure was the result of the scalp electrode being pushed in?
A. What I am saying is there is no -- I cannot say that that fissure was the result of a skull scalp electrode.
Q. When do you think, timing wise, that the e-coli was transmitted into the cephalhematoma?
A. It's impossible to point out the exact time, but I do believe it was in the perinatal period.

Q. What do you mean by the "perinatal period?"
A. By that, I mean the hours prior to and following the delivery.
Q. When did this infant first have clinical signs that, in your opinion, demonstrated that the infant may have an e-coli infection?
MR. SPATARO: Objection to lacking foundation that he said this was an infection.
Q. (BY MS. BARTOSIAK) Or e-coli present.
A. Would you be kind enough to repeat the question on that?
Q. Sure, sure.
When do you believe that this infant first had signs clinically of the e-coli being present in the cephalhematoma, or in the adjacent area that you have described?
A. It is my opinion that those manifested around January 30th.
I apologize. I am sorry. Well, let me double-check.
Between January 30th and 31st.
Q. And what were those signs?
A. The main signs were irritability, fever and jaundice.
Q. Could the irritability, fever or jaundice have

been caused by anything other than the presence of the e-coli?
A. It is possible, but not probable.
Q. Why not?
A. Because in this case, we have the benefit of knowing what happened at a later time and we know that eventually this was diagnosed as being an infected hematoma.
I believe that all three of these symptoms would be explained by the infection being present on or around January 31st.
Q. Is it your opinion that if the cephalhematoma had been drained or aspirated on January 31st, that the testing of the fluid would have demonstrated e-coli?
A. Yes.
It is my opinion that if that hematoma had been aspirated -- And I don't know if this would have been an indication or not -- but, that if it had been aspirated, that more likely than not that e-coli would have been isolated.
Q. What is the basis of that opinion?
A. It's based on the clinical symptoms that the baby had at that time.
Again, without those, the fever, the irritability, the stiff neck, the increased tone in the

lower extremities, the subtle seizure-like activity.
Q. Anything else?
A. And I don't know if I mentioned the jaundice.
MR. FAHRENKROG: You did.
I have got six down; "irritability, fever, jaundice, stiff neck and increased tone in the lower extremities and subtle seizure-like activity."
THE WITNESS: Okay.
Q. (BY MS. BARTOSIAK) Are you still looking, Doctor?
A. Yes, ma'am.
Q. Sure.
A. If you allow me for a second.
Q. Sure.
A. And the decrease in the axial tone.
Q. As well as what we know was the ultimate outcome of this child are indicative that an aspiration of the cephalhematoma at or around January 31st would have yielded the e-coli bacteria?
Q. If the e-coli was actually in the area adjacent, that you have described, would you still expect if the cephalhematoma was aspirated, for the e-coli to be in that fluid?
A. If the aspiration would have been exclusively of the fluid, I would not have expected, or, it may not

have grown if it was only on the adjacent tissue.
But, it is my opinion that by that time, the infection was already, indeed, part of the cephalhematoma.
Q. So, it's your opinion that by January 30, the e-coli was already at a detectable level in the cephalhematoma?
A. It's my opinion that it is likely that around January 31st, that infection was or would have already been detectable in the cephalhematoma.
Q. And is it your opinion that on January 31st, the seven signs that you have described were all the result of this e-coli being present in the cephalhematoma?
A. I would say, with confidence, that at least six of them would have been indicators of the presence of the e-coli in the cephalhematoma.
I am excluding jaundice because that may have been a manifestation of a cephalhematoma irrespective of whether it's infected or not.
Q. So, Doctor, am I correct that you believe on January 31st, the fever, irritability, stiff neck, increased tone in the lower extremities, subtle seizures and decrease in axial tone were all caused by the e-coli being present in the cephalhematoma?

A. I do believe that all of those signs were, indeed, indicative of the e-coli being present in the cephalhematoma.
And if I may, I have one more that I had neglected to mention which is the downward gaze that this baby had.
Q. I don't want to quibble with you over words, Doctor, but, you confused me when you said "indicative."
Are you saying that they were caused, in your opinion, by the presence of e-coli in the cephalhematoma?
A. I am indicating that they were caused by the presence of the e-coli in the cephalhematoma.
Q. Okay. For the fever, irritability, stiff neck, increased tone, subtle seizures, decrease in axial tone and downward gaze, did you consider any other potential causes of those when you were reviewing these records?
A. Yes.
And I believe actually the physician caring for this child considered some of those, too.
And before we go too far, I want to clarify these were possible subtle seizures.
I don't think they were ever documented.
Q. Okay.
A. And in fact, the EEG, at that time, was normal.

Q. Okay. So, what other potential causes did you consider?
A. When one is evaluating a child with this kind of picture, one has to consider the possibility of a hemorrhage, the possibility of a cerebral vascular accident, the possibility of an encephalitis, an infection of the brain.
The possibility of hypoxic ischemic injury, a possibility of a congenital abnormality of the brain.
Q. All right.
A. But, most of them would not be characterized with fever associated with the other symptoms with maybe the exception of encephalitis.
Q. In your opinion, because of the presence of fever with those other associated symptoms, is that why you ruled out these other potential causes that you have discussed?
A. Well, it's not the only reason.
And in fact, the physician caring for this child did work out some of the other possibilities by doing imaging studies, by obtaining studies for the viruses that cause encephalitis, by looking for anatomical malformations.
Q. Did the physicians specifically rule out all of these other potential causes?

A. I don't see a note that reflects that they ruled out every single one of them.
I can go back, and in my mind, see that some of them were considered.
For example, specifically in the case of encephalitis, they obtained a test called a PCR for the herpes virus which, in turn, was negative.
Q. Based upon your review of the record, were any of these other potential causes still considered part of the physicians' differential when, in fact, this infant was discharged?
A. It is my opinion that, indeed, some of those were still considerations in their mind.
Q. And which ones were still considerations based on your review of the record?
MR. FAHRENKROG: This is on February 3rd, the discharge, Teresa?
MS. BARTOSIAK: Correct.
THE WITNESS: February 3rd?
Q. (BY MS. BARTOSIAK) Yes.
A. I believe the possibility of subtle seizures was still a consideration.
And in the opinion of the treating neurologist, there was also a question regarding what the source of the findings was.

Q. For the subtle seizures or for what?
A. For the clinical picture, for the six or seven findings that we have discussed.
Q. So, based upon your review of the medical, what of those other potential causes were still included in the differential?
A. Well, I believe that at that time, the only consideration would have been that of an infected cephalhematoma.
That's a possibility.
Q. So, based upon your review of the records, you believe that the physicians at St. Louis Children's Hospital only had, in their differential as to the cause of this child's symptoms, an infected cephalhematoma?
MR. FAHRENKROG: Let me just object.
I think it is unclear whether you are asking him was that his understanding of what was in their minds, or is that his understanding of what should have been in their minds based upon his review of the chart.
I think it's unclear.
Q. (BY MS. BARTOSIAK) What I am asking you, Doctor, is based upon your review of the chart, what can you tell me, from your review of the chart, was still considered as part of the differential when this child was discharged during the first admission?

A. In my opinion, a consideration should have still been the possibility of a parameningeal focus, an infection in the tissues surrounding the meninges.
And in this particular case, an infected cephalhematoma.
Q. Well, I understand, Doctor, that's your opinion of what you think should have been within their differential.
But, I am asking you if you can tell, from reviewing the records, of the other possibilities, potential causes, that you outlined whether any of those were still included in the differential by the physicians at Childrens Hospital, if you can tell?
A. Based exclusively on the review of the records, no, I cannot.
Q. When do you believe -- What was the timing for the e-coli in the cephalhematoma to break through and seed in the bloodstream?
MR. SPATARO: Objection as to lack of foundation, "broken and seeded in the bloodstream."
THE WITNESS: There is actually no evidence that the bacteria seeded the bloodstream.
Q. (BY MS. BARTOSIAK) So, Doctor, is it your opinion that the only way the physicians at St. Louis Children's Hospital would have been able to confirm that

this child had e-coli in the cephalhematoma, during the first admission, would be to have aspirated the cephalhematoma?

A. Not necessarily.

It is possible that there could have been other ways of making the diagnosis.

For example, the performance of an MRI or a repeat CAT Scan may have given clues as to whether an infection was developing or had developed at the site.

Q. And what would you see by an MRI in your opinion?

A. Well, I am not a radiologist, but in my experience, what you see is an area of increased enhancement or an area of enhancement in the tissue surrounding that infected cephalhematoma.

In other words, you start seeing the development of what will be, later, an abscess.

You may also see some debris at the site of the cephalhematoma from bacterial production, from bacterial garbage, if that makes sense.

And finally, there could have been other indirect ways of, at least, suspecting the diagnosis.

For example, repeating a lumbar puncture, repeating a blood culture.

Those may have given clues as to whether this

hematoma was infected or not.

But, the definite diagnosis would have been to actually aspirate.

Q. Do you believe if an MRI would have been performed or a repeat CAT Scan prior to this infant's discharge during the first admission, that there would have been evidence of the e-coli?

MR. FAHRENKROG: You haven't been clear whether it's January 31st or February 3rd.

It may not make any difference to the Doctor but, perhaps you can clarify what part of the hospitalization.

MS. BARTOSIAK: Okay.

Q. (BY MS. BARTOSIAK) Do you believe that there would have been evidence if an MRI or a repeat CAT Scan had been done at any time during the first admission of e-coli?

MR. SPATARO: Objection as lack of foundation.

THE WITNESS: It's possible that there would have been evidence of an infection if one of these tests would have been done.

And I am answering exclusively as to an MRI or a CAT Scan.

Q. (BY MS. BARTOSIAK) Okay. What else are you

including?

A. That's the only things that I am including in that answer.

Q. Okay. But, as you sit here today, can you offer an opinion, to a reasonable degree of medical certainty?

A. No, I can't.

MR. SPATARO: Let me object as lacking foundation.

But go ahead.

THE WITNESS: No, I cannot.

Q. (BY MS. BARTOSIAK) And at what times were the blood cultures performed on this infant? On what days during the first admission?

A. What time?

Q. No.

What day?

A. The blood culture was actually performed at the outside hospital.

MR. FAHRENKROG: Parkland.

THE WITNESS: Parkland Hospital.

Q. (BY MS. BARTOSIAK) And was that on January 31st?

A. Yes, ma'am.

Q. And what about the lumbar puncture, when was that performed?

A. The lumbar puncture was performed after his admission or after his transfer to Children's Hospital.

And it is logged as 7:53 in the morning on the 31st.

Q. Is it your opinion that an additional blood culture should have been performed in this case prior to discharge?

A. Well, I say to clarify it, I am testifying as to causation.

With that in mind, I would say that repeating a blood culture may have been a consideration based on the clinical course that this child had during his hospital stay.

MR. FAHRENKROG: Just so it is clear, Teresa, this is getting into the area of subjective standard of care.

I don't think it has been clarified yet as to whether that is a subjective standard of care.

But, you know, he will not testify to subjective standard of care and departure.

MS. BARTOSIAK: Okay.

Q. (BY MS. BARTOSIAK) Can you offer any opinion, to a reasonable degree of medical certainty, as to whether a lumbar puncture done prior to discharge at St. Louis Children's Hospital would have shown anything

different than the first lumbar puncture?
A. Yes.
It is my opinion that a repeat lumbar puncture would have been normal if it had been done --
Q. And what do you base that on?
A. -- prior to discharge.
Q. I am sorry?
A. Based on the ultimate outcome and clinical picture that this child had, we know that, indeed, he ended up having a meningitis with a parameningeal focus.
And it is my opinion that a repeat lumbar puncture may have added some additional information at that time, and that it may have shown abnormalities that were not seen in the original lumbar puncture.
Q. And that's your opinion to a reasonable degree of medical certainty?
A. Yes, ma'am.
Q. How would the -- If the e-coli, in your opinion, is -- you said you thought it was in the cephalhematoma when the infant, by January 31st -- why would the lumbar puncture done prior to discharge show anything different than the lumbar puncture done on January 31st?
A. Because there actually had been progression of clinical symptoms.

If you take into account the progress that this child had, he had continued to be febrile during -- having low grade fever during his hospital stay.
His neurologic exam had progressed to where he had these abnormal movements that were thought to be subtle seizures.
He had increased extensor -- increased extension of the neck or extensor pressure of the neck, and had developed a more significant downward gaze.
That, to me, indicates that there is progression of the neurologic picture.
Q. In your opinion, would the same analysis apply regarding the progress of the clinical symptoms as to why you believe that a blood culture would be different if performed different from January 31st if performed on the day of discharge?
A. No.
In fact, I do not believe I have testified that a repeat blood culture would have been different.
I just indicated that was one of the possible tests to do.
But, I do not believe that a blood culture done at that time prior to discharge, would have had or added any significant information.
Q. Okay. If you had been presented with this

infant on January 31st, tell me what you would have done.
MR. SPATARO: Objection to relevancy.
But go ahead.
THE WITNESS: Well, I believe that on January 31st, the management, overall, was appropriate.
I would have requested a lumbar puncture; I would have started broad spectrum antibiotics.
I may have considered the addition of a cyclometer as it was done by the attending physician.
So, I believe that the initial management was reasonable.
And now, in my personal opinion, I would have repeated a blood culture prior to the initiation of my antibiotic therapy.
And I would have requested a neurology consult to help me understand why these symptoms that were inconsistent with a simple cephalhematoma were occurring.
Q. Would you have recommended aspiration of the cephalhematoma?
A. Specifically on January 31st?
Q. During the first admission.
A. Okay. And I guess that's -- You know, your question was presented to me on January 31st.

No.
If you ask me during this admission, I would have further explored the neurologic symptoms at the time of the discharge.
By that, I mean repeating a lumbar puncture, repeating a CBC, consider obtaining a CAT Scan or an MRI, and continuing antibiotics until the cause of those symptoms was determined.
Q. All right.
A. If the results of one or a number of these tests indicated the possibility of an infected cephalhematoma, then, I would have asked our neurosurgeons to obtain a sample of the fluid to determine if it was, indeed, infected.
Q. Would you defer to a neurosurgeon on the issue of whether they would want to, in fact, aspirate the cephalhematoma?
A. Without insulting our neurosurgeon, I do believe that if I felt strongly about aspirating a cephalhematoma and the neurosurgeon refused, I would seek the advice of or the help of another person if my diagnostic consideration is a possibility of an infection.
And you have to insist that they will do it.
Q. In your experience, how many cephalhematomas,

with your patients, have you asked to be aspirated?
A. I don't think it's a large number. Maybe six or seven.
Q. Do you agree that there is a significant risk of actually introducing an infection into a cephalhematoma when you aspirate it?
MR. FAHRENKROG: Objection to form as to "significant."
THE WITNESS: I don't know exactly what the meaning of "significant" is.
There is a risk.
Q. (BY MS. BARTOSIAK) Would you consider it a high risk?
MR. FAHRENKROG: The same objection.
THE WITNESS: No.
In fact, our neurosurgeons do aspirations everyday, and sometimes more than once in our newborn nursery patients.
Aspirations of cerebral spinal fluid, aspirations of abscesses, aspirations for many different reasons.
And fortunately, the rate of infection is very low.
Q. (BY MS. BARTOSIAK) Of the six to seven cephalhematomas that, in your experience, you have asked

to be aspirated, in any of those was infection actually introduced through the aspiration, to your knowledge?
A. Not that I can recall.
Q. Are there any contraindications for continuing an infant on antibiotic therapy when there is a negative blood culture and negative CSF?
A. I don't believe there are any specific contraindications.
Q. Is there any opinion that you are aware of, as far as pediatricians go, that you want to -- that you would be worried about keeping an infant on antibiotic therapy when there is no lab work to support that there is a presence of an infection?
MR. FAHRENKROG: Objection to form as vague. Calls for speculation.
THE WITNESS: I think I understand what you are trying to ask.
And that is there is a common practice of discontinuing antibiotics on a child who is admitted for possible infection, febrile neonate.
Typically we discontinue antibiotics after 48 to 72 hours if our cultures remain negative, and if we have an alternative explanation for this in clinical symptoms.
Now, this general guideline or general premise

does not include patients who have abnormal findings or those in which an alternative diagnosis has not been made.
Q. All right.
A. An infection is still a consideration.
Q. So, in your practice for infants who have negative cultures, but, abnormal findings for which there is an alternative diagnosis has not been determined, you would just continue them on antibiotics indefinitely until that alternative diagnosis is made?
A. If there is still a -- if an infection is still a consideration, yes.
In fact, it is a practice that is done nearly everyday.
In the newborn nurseries, we have babies in which we suspect sepsis, the cultures are negative, but clinically, we don't have an explanation of why the baby developed those symptoms.
And in those babies, we make the decision to treat for a longer period of time or until an alternative diagnosis is made.
Q. What if, in those infants, no alternative diagnosis is ever made; do you just keep them on an antibiotic therapy?
A. Unfortunately that does happen in an occasion

where we decide to assume the worse-case scenario, the possibility of the symptoms being related to an infection.
And in those cases we give a full course of antibiotics, whether it be ten or fourteen days, depending on the particulars of each case.
Q. On this infant, you indicated that if you were treating the infant at the time of discharge during the first admission, you would have continued the infant on antibiotics.
How long a course would you have continued the infant on?
A. Well, you have to understand that if I would have continued antibiotics, I would have also continued working up the clinical manifestations that he was having.
If I had not found an acceptable alternative explanation, then, I would have treated this child for a minimum of ten to fourteen days assuming that the worst case scenario was that this was infectious in nature.
Q. Do you have an opinion as to whether this infant had been continued on antibiotics for the 10 to 14 day-course, that you suggested, whether the infant ever would have developed meningitis?
A. Yes, ma'am.

It is my opinion that it would have been extremely unlikely that he would have developed meningitis.

Q. What do you base that on?

A. Based on my knowledge and understanding of how e-coli behaves and responds to antibiotic therapy.

At that time, the infection was localized to a hematoma.

Ten to fourteen days would have been plenty to treat the infection at that site.

Unfortunately, when the infection was not treated for that length of time, it was enough to suppress it, but not completely kill it.

And it was not until days later that it became evident as now a meningitis.

Q. Do you have an opinion as to the time frame when you believe this infection became nonlocalized to the hematoma?

A. Yes, ma'am.

I believe that occurred around the date of the second admission to St. Louis Children's Hospital.

Q. Can you be a little more specific as to the days.

A. If you allow me for a second. (Indicating).

Q. Sure.

A. Yes, ma'am. I believe that Randall developed fever and irritability on or around February 11th of '99.

The development of these symptoms indicates to me that the infection had now spread to the meninges.

Q. And do you base that solely on the fever and irritability?

A. (No answer).

Q. In your opinion as to the timing?

A. Not only on that, but what were ultimately the results of the lumbar puncture that was performed on that second admission, which, at that time, indicated that he had developed a full blown meningitis with abnormality in the cell count and abnormality in the concentration of glucose.

Q. Is it your opinion that if the child had been continued on antibiotics for a course of ten to fourteen days, that he would have been completely normal?

A. (No answer).

Q. I think that was your words.

A. I believe that what my opinion is is that the -- He would not have had the outcome, the neurologic outcome and deafness, that he had if -- If this meningitis would have been stopped before it developed, I would not have expected any abnormal neurologic

outcome from that specific reason.

Q. Are you aware of any studies or medical literature indicating that hearing loss associated with meningitis is not affected by any type of earlier diagnosis and treatment?

A. You are correct.

There are some studies that suggest that once meningitis has established, that it's unlikely that antibiotic therapy would make a difference.

My position is that at the time that this child was admitted for the first time, on January 31st, that he had not developed meningitis, and antibiotics given for a full course at that time would have prevented the development of meningitis.

Q. When you testified earlier that you believe the series of events led to the outcome of Randall's deafness and neurologic compromise, what were you referring to?

A. Well, I understand that – I have not examined Randall, but I understand that after this episode, he also developed seizures, and he has some disorders of movements specifically.

I am not aware if he also has a component of cerebral palsy or not, or, if he has a component of mental retardation or not.

But, the records that I have, the only -- I can only go as far as knowing that he has some definite -- he has definite deafness and that he has other neurologic abnormalities.

Q. When you say "definite deafness," do you know, as you sit here today, the extent of Randall Parker's hearing impairment, if any?

A. My understanding is that it is profound.

Q. What do you base that on?

A. On the records that I reviewed, the notes. If you will allow me for a second.

Q. Sure. Go ahead.

A. (Indicating). I apologize. I apologize.

The results shown indicate that he had failed his hearing test.

I do not have a specific indication as to what the severity of his deafness is.

Q. So, as you sit here today, are you prepared to offer any opinion at all as to what Randall Parker's hearing impairment may be, if any?

A. No, I am not.

Q. What about when you said "neurologic compromise," what were you referring to?

A. I was referring to the fact that he, later on, developed seizures, and that he had to be on medication

for those seizures.
Specifically on phenobarbital, is my recollection.
Q. And where did you get that he had the seizures that you are describing? Is that from the medical records?
A. From the medical records.
Q. Which admission?
A. It is, actually, if I remember correctly, from a later admission.
But, it was also in the second admission to St. Louis Children's.
Q. When you say a "later admission," what are you referring to?
A. There is an admission for a hearing test that occurred on May 6th of '99.
And in that note, it indicates he received phenobarbital for seizures twice a day.
Q. You haven't been provided with any of Randall Parker's medical records within the past year or so, is that correct?
A. That is correct.
Q. As you sit here today, are you prepared to offer any opinions as to Randall Parker's neurological status?

MR. SPATARO: Objection as to lack of foundation.
THE WITNESS: No, ma'am, I am not.
MR. FAHRENKROG: For the record, we expect at trial, hypothesizing for him what Randall Parker's current neurological condition is, and then, asking his opinion as to causal in terms of the relationship.
So, just in case you are planning to spring some sort of surprise at trial, you know, that's the purpose of doing it.
Q. (BY MS. BARTOSIAK) In Exhibit No. 2, you had correspondence from Mr. Fahrenkrog asking you two questions.
The first question was:
"Were any of the strains of e-coli bacteria found to be present in the mom's urine during the period, the same e-coli bacteria which eventually infected Randall Parker?"
Did you provide Mr. Fahrenkrog a response to his question?
A. I do not recall if I -- I do not recall doing so.
Q. Okay. Do you have an opinion?
A. Yes, ma'am.
I have mentioned to you in the deposition that

I do believe that the e-coli that was isolated from the mother is very likely the same one that was isolated from him based on the susceptibility pattern.
Q. And you believe that to a reasonable degree of medical certainty?
A. Yes, ma'am.
Q. The second question is:
"What is your opinion as to whether the prescribed antibiotics temporarily suppressed the e-coli bacteria so that the clinical onset of the e-coli meningitis did not manifest until January 10 or 11?"
Did you provide Mr. Fahrenkrog with your opinion?
MR. FAHRENKROG: It should be February 10th.
MS. BARTOSIAK: Oh, is it?
Q. (BY MS. BARTOSIAK) And it should be February. Apparently it's a "typo."
A. Okay. No, I do not recall providing him with that specific answer.
Q. Okay. And do you have an opinion?
A. Yes, I do.
Q. What is your opinion?
A. My opinion is that the antibiotics that he received during his January 31st to February 3rd

admission were enough to suppress his infection.
Enough that he did not manifest with meningitis until his admission later on that month.
And I clarified that, because I am not saying that the antibiotics suppressed the meningitis, itself; I am saying that it suppressed the infection due to the e-coli.
Q. Mr. Fahrenkrog sent you a long letter on July 6th 2000, which is part of Exhibit 2, laying out what his version of what occurred in this case is.
Did you rely, in any way, on Mr. Fahrenkrog's version as he has outlined in that letter?
A. I do recall reading it and using it as a guideline for my review so that I could at least focus on what some of the issues were.
I don't feel like I used it at all to base my opinion on in this case.
In fact, you were asking me earlier how did I know that the hearing deficit was so severe.
And although, Mr. Fahrenkrog, in his letter, indicates that it was, indeed, I don't have any evidence from the medical records, themselves, to make that or draw that kind of conclusion.
Q. All right. In your experience treating neonates, have you ever had an infant who had negative

blood cultures and CFS, and then, later developed meningitis?
A. Yes, ma'am.
Q. And how often has that occurred?
A. The literature reports that approximately 10% of the cases of meningitis will have negative cultures, negative blood cultures -- I am sorry -- at the time of the presentation.
Q. How about negative CSF?
A. (No answer).
Q. Are you saying that 10% also would have negative CSF, or, is it only the blood cultures?
A. No.
I am talking exclusively about the blood cultures there.
Q. Okay.
A. The CFS being positive is the hallmark of meningitis.
Q. Okay.
A. Now, there may have been times when the CSF may have been negative. For example, in a baby that has received antibiotics prior to the time when the puncture is done.
And, in those cases we have to call it or tend to call it partially treated meningitis.

But, I was answering specifically just to blood cultures in the presence of meningitis in the newborn.
Q. Okay. When I asked you the question, my question was: Have you ever had an infant that you have treated where the blood cultures and the CSF have been negative and the infant eventually developed meningitis?
A. And if you are asking me at any time if the blood in the CFS cultures were negative, and then, eventually developed meningitis?
Q. I don't mean like years down the road.
I mean the infant came into the hospital; you tested the infant through blood cultures and CSF and they were negative.
And then, you know, within a time frame of say --
MR. FAHRENKROG: Weeks, like we did before.
MS. BARTOSIAK: Yes.
Q. (BY MS. BARTOSIAK) And in a couple of weeks, the infant developed meningitis?
A. Sure.
It is a possibility, and it can happen.
Q. I understand it's a possibility.
I am asking you has it ever happened to you as a physician?
Have you ever had an infant that you treated

had a negative CFS and negative blood cultures, and then, within a few weeks developed meningitis?
A. It's possible that I have treated such a patient.
I honestly don't have, you know, a specific recollection of that happening, but it's certainly a possibility.
MR. SPATARO: Would this be a good place to take a quick break?
MS. BARTOSIAK: Sure.
(Break had).
Q. (BY MS. BARTOSIAK) Doctor, do you believe that that cephalhematoma was walled off?
A. In the sense that it was confined to an area, I guess it's a difficult answer. It's a yes and a no.
I mean there was a confinement, but it obviously had enough time or connection to spread to the meninges.
I mean, the cephalhematoma was actually on the outside of the skull. The meninges are on the inside part of the skull.
So, there had to be some form of communication for the bacteria to reach that space. So, there was some degree of confinement, but not 100%.
Q. Okay. Can you tell me where, before the

cephalhematoma in your opinion, somehow communicated to the meninges where it was confined to, where was this area of confinement that you were describing?
A. I would not be able to tell you exactly.
I mean it was confined to the place where the cephalhematoma was located, which was in the parietal occipital area.
Q. Okay. Can you get any more specific than that?
A. No, ma'am, I can't.
Q. Can you explain to me how the antibiotics would have gotten to this confined area in order to have, in your opinion, prevented the eventual development of meningitis?
A. Well, in this case, it wasn't prevented; it was slowing down or partially treating or partially covering the development of meningitis in this specific case.
And that's my testimony is that the antibiotics were able to delay, but not completely eliminate the development of meningitis.
Q. And what about what did the antibiotics do to delay the development of meningitis, suppress symptoms? What is it that the --
A. Well, no.
They actually killed a number of this bacteria to where the infection became low grade within that

cephalhematoma.
These were good antibiotics. These were antibiotics that were appropriate for this bacteria.
It was enough to kill probably a large burden of them.
Q. How did the antibiotic get to the cephalhematoma?
A. Well, there is a number of ways.
First, remember the cephalhematoma means that there is blood in it.
So, the blood that had come and filled that space might have contained antibiotics. It certainly contained antibodies and other parts of the immune system.
In addition, antibiotics will diffuse into the this hematoma.
Now, the concentrations may not be ideal, and they probably were not enough to kill all of them.
I mean, in fact, that's what I am saying, that it wasn't enough antibiotics to kill all of the bacteria.
But, there was enough concentration of antibiotic there to suppress the infection for a period of time.
Q. You said that the cephalhematoma may have had

blood in it that may have contained some of the antibiotics given during the first admission?
A. Yes, ma'am.
Q. Okay.
A. It was possible that there was still some amount of blood getting into the cephalhematoma.
You know, we cannot determine if he was still bleeding into the hematoma or not.
Q. If blood is getting into the cephalhematoma, isn't blood getting out of the cephalhematoma, also?
A. Not necessarily.
The blood usually flows based on pressures.
If the pressure of the blood outside of the hematoma was greater, it would go into the hematoma, and not necessarily seeing blood coming out of it.
Q. Well, if the blood was just going into the hematoma, and no blood is coming out of the hematoma, wouldn't you expect the cephalhematoma to just get bigger and bigger?
A. It is possible it could get bigger and bigger.
However, you have to understand that there is another process inside that hematoma; there is action of enzymes, there is proteolytic process; there is destruction of red cells; there is consumption of those red cells that have already been a part of that

hematoma.
So, that it starts decreasing.
Not only that. You also have some absorption, not necessarily of blood, but you can have absorption of other fluids that are being absorbed from that hematoma into the bloodstream and the rest of the circulation.
Q. Well, if some of those processes are being absorbed from the hematoma into the bloodstream, wouldn't you expect the blood cultures to be positive?
A. It is possible.
Remember, he had received antibiotics, and those antibiotics could have been enough to suppress it in the bloodstream.
But, yes, it is possible that the bacteria could have gained access from the hematoma to the bloodstream, and then, from the bloodstream to the meninges. It's certainly a possibility.
Q. If the antibiotics, in your opinion, would have merely suppressed the infection, how do you have the opinion that the continued course of antibiotics for the ten to fourteen days would have had any effect on preventing the infection from developing in the meningitis?
A. It has to do with duration of treatment.
Three to five days of an antibiotic is not

enough to kill all of the bacteria within a hematoma or within an abscess.
But, if you give an antibiotic for a longer duration of time, you are going to give enough time for that antibiotic to diffuse all the way into the core or the center of the abscess or the hematoma, and then, kill all of the bacteria.
So, it is basically a duration of treatment rather than an efficacy of the antibiotic is how long you expose that bacteria to the antibiotic.
Specifically, in this case, Ampicillin and Cefotaxime are antibiotics that don't have a post antibiotic effect.
By that, I mean there are some antibiotics -- not this one, but some other antibiotics -- that once you give them, even if they have come down on their levels, they continue to kill the bacteria.
That is not the case with Ampicillin and Cefotaxime.
Once these antibiotics were stopped, the effect of the antibiotics disappear within a matter of hours. And so, not all of the bacteria were killed.
My position is if this child had received antibiotics for ten to fourteen days, more likely than not, all of the bacteria would have been killed.

And it is unlikely that meningitis would have developed.

Q. And during that ten to fourteen days, how would the antibiotics have gotten to the cephalohematoma?

A. Mostly by diffusion from the bloodstream into the hematoma.

Q. And again, is it your theory that during that ten to fourteen days, blood would be going into the cephalhematoma with the antibiotics, but blood would not be coming out?

A. No, not necessarily.

You are talking specifically about blood, and I am thinking, you know, red blood cells. And it is the other components of blood that will still diffuse for both in and out. It is the serum. It's the fluid, the extra set of fluid, that makes part of blood.

Now, not necessarily the red cells, but the fluid, the serum, will be diffusing and allowing for the antibiotic to go in, and allowing for some of the products that are being made in this hematoma to be diffused back into the circulation.

Q. All right. If the cephalhematoma, in your opinion, is an area of confinement during the first admission, how would a second lumbar puncture have any type of positive result?

A. Well -- and I think that's why I wanted to clarify.

Even though there was some containment, I do believe that the second lumbar puncture would have indicated that there was now a spread occurring into the meninges.

Remember, I have said that the symptoms that the child had at that time were not explained by a simple cephalhematoma.

I do believe there was a component of extension or, what we call a parameningeal fossa that, more likely than not, had progressed in that time.

And that's why I believe that the spinal tap, even though the cultures may have been negative or very likely would have been negative, they have shown some indication of inflammation occurring around or close to the meninges.

Q. If the cephalhematoma is, as you said, allowing fluid to come in and out of it, then, why wouldn't the first lumbar puncture have shown this inflammation?

A. Because the hematoma, this fluid that is coming in and out, is not coming from the spinal fluid; it is fluid coming from the serum.

So, they are completely independent at this

point.

Q. Okay. If they are completely independent at that point, how is it that something gets into the spinal fluid to demonstrate this inflammation during the second puncture?

A. Because you have inflammatory mediators that are responsible for that inflammation.

It is not the infection, itself, sometimes; it may be the inflammatory response.

If I put pressure in your thumbnail for several minutes, I will eventually cause a release of certain chemical products in your body that will create migration of white cells or other fighting cells into that site.

And in the same way, if you have something, an infection or infectious process close enough to the meninges, eventually you are going to see some manifestation of that inflammation in your cerebral spinal fluid.

It's not infection directly; it is the inflammatory process that is occurring.

Q. If, in your opinion, the child had an infection before the discharge from St. Louis Children's Hospital, which you believe was manifesting itself in the symptoms that you described earlier, would you have expected

those symptoms to just continue to get worse until the second admission?

A. Not necessarily.

We already have mentioned that there was enough suppression of the bacteria that those symptoms may not have progressed for several days before they became overtly manifest on the second admission.

Q. And you say they may not have progressed, but you would still expect the symptoms to be there in-between the first and the second admission, right?

A. At least some of them, yes.

Q. Which ones?

A. I wouldn't be able to specifically point to one.

I mean, I would expect that some of the symptoms that we have been discussing, these six or seven symptoms that we have mentioned, would still be present.

Q. Those would still be present between the first and the second admission?

A. That is correct.

Q. And would you expect them to be present constantly?

A. No, not necessarily.

The inflammatory process may have a

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wax-and-wane course.
So, just like we saw in the case of his fever, where his fever disappeared prior to his discharge, and then, reappeared, it is possible and actually probable that his other symptoms may have a similar pattern.
The inflammatory response to an infection or any kind of trauma typically has a wax-and-wane course.
MS. BARTOSIAK: I am going to go ahead and pass off to someone else and give me a chance to look at everything.
Thank you.
THE WITNESS: Thank you.
EXAMINATION
Q. (BY MR. SPATARO) Doctor, I am Peter Spataro.
I represent Washington University in this case, with some follow-up questions for you on your testimony.
A. Yes, sir.
Q. If I understand from your earlier testimony, you believe that it was around the 11th of February secondary signs of fever and irritability, that the e-coli broke out of the cephalhematoma and spread to the meninges, is that right?
A. Yes.
I guess that probably a better way to describe it is around that day is that the meningitis became

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evident.
And that at that time, the meningitis had fully set in or the bacteria had fully caused a full meningitis.
Q. Well, I have it in my notes that on the 11th, it broke out of the cephalhematoma.
Do you believe that the agent, the e-coli agent, broke out of the cephalhematoma around the 11th, and at that time, spread to the meninges?
A. If I used that expression, I apologize. I don't mean to indicate that it broke out.
I believe that my testimony is that the 11th the meningitis had fully developed.
What the exact time is in which the bacteria actually gained access to the meninges, I am not able to determine.
Q. Well, how long could one have meninges subject to an e-coli bacteria without causing overt symptoms of fever and irritability?
A. I don't know.
There is a number of different factors. It depends on what the immune status of the host is; it depends on the number of bacteria that have gained access; how virulent that specific strain of bacteria is; how good the immune response of the host is.

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So, there is a number of variables that may play into what the answer is to your question.
But, in general terms, it's typically a matter of hours from the time that the bacteria reaches the meninges to when it starts manifesting.
And by that, I mean, you know, anywhere from 12 to maybe 24, 36 hours will be a good estimate in general.
Q. Okay. And in fact, they have done studies, have they not, on e-coli bacteria, and that is a particularly virulent bacteria that attacks and causes symptoms very quickly in the meninges; doesn't it?
A. You are correct.
Q. Okay. You had mentioned a number of -- we'll call them signs or symptoms that were present in the first admission.
Increased tone.
Did the child exhibit increased tone?
A. Increased axial tone.
Q. Okay. What is that?
A. (No answer).
Q. Increased axial tone or decreased axial tone, or, do you remember?
MR. FAHRENKROG: Increased tone in the legs and decreased axial tone.

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THE WITNESS: It's a -- The actual axial tone was markedly decreased and an amount of increase in the arms.
Q. (BY MR. SPATARO) What is axial tone?
A. It's the muscle tone of the axis of the body.
Q. And is your ability to exhibit axial tone neurologically in the central nervous system?
A. Yes.
Q. Okay. Does it originate in the brain?
A. That is my understanding.
Q. Okay. Where, in the brain, would a defect be to cause the body to exhibit decreased axial tone, if you know?
A. I don't know.
Q. Would there, at this moment in time, have to be some abnormality of the brain in that area, wherever it is, to cause decreased axial tone?
A. Yes.
There is something going on in the brain that will cause the increase in axial tone.
Q. What is going on in the brain? Or, do you not have an opinion on that, not being a neurologist?
A. I do not have an opinion.
Q. So, whether it has something to do with this bacteria that is inside the cephalhematoma, or some

other mechanism unrelated, you would not know?
A. That is correct.
Q. How about the extreme extensor neck tone, would you have the same opinion about that?
A. My opinion, well, an increased extensor neck tone may be due to a number of reasons.
Some of them have to do with the central nervous system; some of them may not.
Q. Okay. If the cause of the extreme extensor neck tone in this child is due to a central nervous system dysfunction, is that beyond your expertise to tell me today what that might have been in this particular case?
A. I will be able to tell you that one of the sites is a -- Or one of the possible sources of this increased tone is an infection in the parameningeal or a parameningeal fossa.
But, as to other sites that may be involved, and be responsible for this increased extensor neck, no, I do not.
Q. And we don't know, today, what the extreme extensor neck tone was caused by in this child; would that be fair?
MR. FAHRENKROG: Objection to the form. The term "we." Who?

MS. BARTOSIAK: "We," you.
THE WITNESS: No. I believe it was due to this parameningeal fossa that I have been referring to.
That, in my opinion, is the reason why this child had the increased tone.
Q. (BY MR. SPATARO) You said parameningeal.
What does parameningeal mean?
A. It just means close by.
Q. He doesn't have meningitis right now at this point?
A. That is correct.
Q. But, he has got something close by the meninges?
A. That is correct.
Q. What does he have close by the meninges?
A. Well, in this case, I believe infected cephalhematoma.
Q. So, he has a cephalhematoma, and inside the cephalhematoma, there are e-coli bacteria?
A. That is correct.
Q. You say it is infected, correct?
A. That's correct.
Q. What does infected mean?
A. It means that there is an organism that doesn't belong there, and that it is replicating and producing

an inflammatory response.
Q. What is the difference between it being colonized and it being infected?
A. Well, a colonized site just indicates that the bacteria is there, and it is not eliciting an inflammatory response from the host.
Q. Okay. What is an inflammatory response?
A. Well, an inflammatory response is the production and recruitment of cells in other blood components, generally known as cytokines, that have the ability to fight the infection.
By that, I also include antibiotic and complements.
There is a number of components of an inflammatory reaction.
It's a cascade of events whose purpose is to stop or decrease the inflammatory process.
Q. Okay. And how would we know -- How would you know that there is a colonization of this cephalhematoma versus an infection of the cephalhematoma?
A. Because a cephalhematoma that is only colonized would not have shown any clinical symptoms.
Because we don't have an inflammatory response, you don't have the presence of fever. You don't have the presence of irritability.

You and I and everybody in this room is colonized with normal bacteria in our skin, in our gut. We don't know about it because it is not causing any problems.
But, if our flora in the skin was to cause, now, an infection, we would know because it would manifest from as simple as a pimple to a full area of cellulite or an abscess.
Q. Have you treated children with cephalhematomas, infants?
A. Yes, I have.
Q. Okay. I take it that the great majority of those are not infected?
A. Absolutely.
Q. Of those children with non infectious cephalhematomas, do you notice any of them that are irritable secondary to the presence of a cephalhematoma?
A. Well, fortunately at that age, it is hard to know what the source of the irritability is, but certainly it is a possibility.
Q. And it's a possibility, because the cephalhematoma, being a mass on the head of the child, is uncomfortable and makes them irritable?
A. They, very likely, have a headache.
Q. Okay. And that would be a very common

association, if a child has a cephalhematoma to the degree described in these records, and the child was irritable, one would associate -- or, it would not be unreasonable to put those two together?

A. Just those two together by themselves, yes.

Q. Fever?

A. Yes.

Q. Was the child jaundiced at all upon admission?

A. Yes, he was very jaundiced.

Q. Okay. Well, does jaundice and fever have any relationship?

A. Not a direct relationship.

Jaundice is one of the manifestations of infection or sepsis.

And fever can be a manifestation of infection and sepsis.

So, in that sense, if you see a child who is jaundiced and has a fever, then, you need to consider infection in your differential diagnosis.

But, being that jaundice will cause fever by itself, no, there is no such association that I am aware of.

Q. Well, do you know of any condition that would cause fever other than infection?

A. Sure.

It's possible that you can see fever from other inflammatory reasons that are not infectious in nature.

A typical example is patients who have leukemia or patients who have lupus, disorders where your immune system is altered, may lead to development of fever without having an infection.

Q. If you were to give me a differential in this case of all the possibilities, in your opinion, as to why the child presented with a fever upon admission, what would those be?

MR. FAHRENKROG: Just fever now, not any of the other symptoms, correct?

MR. SPATARO: Right.

THE WITNESS: Fever upon admission, on the first admission?

Q. (BY MR. SPATARO) Right.

Q. The first admission January 31st.

A. Well, as you mentioned, infection would be the top consideration.

Other causes of fever in the newborn include hormonal disorders, like hyperthyroidism.

If you have a lot of high thyroid hormone, you can have fever with it.

Abnormalities in sweating if the baby is not capable of sweating, he or she may have a fever.

Autoimmune inflammatory diseases.

Like I mentioned before, lupus and other connective tissue diseases may present with fever without being an infection.

We certainly see instances where the fever or the elevated temperatures is a result of over bundling or exposure to an environment that is hotter than the room temperature.

Q. But, in your opinion, if the child was jaundiced that would not be an explanation?

A. I am not aware of jaundice explaining fever by itself.

Q. Okay. What do you think was the cause of jaundice?

A. It was probably a combination of factors.

It's not unusual for a newborn child to develop physiologic jaundice.

This is a jaundice that occurs as a result of the immaturity of the liver, and it's expected in the majority of newborns.

Secondly, this child had a large cephalhematoma.

The destruction or the processing of the blood that was already in the hematoma, increases the level of bilirubin.

And frankly, I think that's the main reason why this bilirubin was so high.

And then, thirdly, it is possible infection may have contributed to his bilirubin level, hyper bilirubin, elevated bilirubin level.

Q. The child came in irritable, correct?

A. That's correct.

Q. He came in with jaundice?

A. That's correct.

Q. Did he come in with fever?

A. Yes, he did.

Q. Did he leave with any of those three conditions on the 3rd of February?

A. The fever had resolved. The jaundice had improved significantly with his bilirubin coming down.

But, his irritability was still an issue in my interpretation of the records.

Q. What about his condition on the day of discharge; did he continue to show irritability?

A. A note dated 2-2 of '99, by Dr. Ann Conley, states that:

"The patient continues to be irritable."

Q. How was his feeding on the 3rd?

A. The notes reflect he was eating well.

Q. Did Dr. Gitlin make a remark on the 2nd that he

was "showing improvement in irritability?"
A. Yes, he does.
He indicates that on a note on the 2nd.
Q. Okay. You said you have drained or had drained at someone's direction six to seven cephalhematomas in your career?
A. I have estimated probably that, six or seven patients.
Q. Do you remember any of those specifically?
A. No, sir.
Q. Do you know what the cephalhematomas looked like at the time you made the recommendation to have them drained?
A. No, I do not recall the indications or what they looked like.
They were probably drained as part of our evaluation for the possibility of infection.
In fact, the most common indication that I can think of is to look for the possibility of infection of the bone, itself, what we call an osteomyelitis of the skull.
Q. Was that ever demonstrated in this case?
A. No, it was not.
Q. Was it ever demonstrated that the cephalhematoma got larger during the time of the

hospitalization?
A. Not to my knowledge.
Q. Did it ever have any record indicating that it was fluctuant or inflamed?
A. Not to my knowledge.
Q. Did it have any look about it, via the record, suggesting it was infected?
A. In terms of appearance, no.
In terms of clinical course, yes.
Q. Isn't it true that almost every reputable pediatric text says incising or aspirating cephalhematomas is contraindicated because of the risk of introducing infection?
A. I don't know if every major textbook has that. But, I am not surprised if you find it in a reputable textbook.
I agree that is, indeed, one of the risks.
Q. Well, not only a risk, but it is contraindicated.
And that means that you shouldn't do it, right?
A. Well, if that is what this particular text that you are reading indicates, that is what their opinion is.
Q. Well, you are familiar with the Fanneroff text?
A. I am familiar with that text.

Q. It's one of the standard textbooks in pediatrics?
A. It's one of the reliable textbooks, yes.
Q. Would you agree with it when it says:
"Incision or aspiration of the cephalhematoma is contraindicated because of the risk of introducing infection?"
A. I would agree that that's what the paper said, if you are quoting it correctly to me.
Q. How about the Nelson's text; is that another standard text?
A. Nelson is another standard text.
Q. Are you familiar with their recommendation in Nelson's, that incision and drainage are contraindicated because of the risk of introducing infection in a benign condition?
A. I would not be surprised if that's what it states.
Q. Okay. And are you familiar with the Volpe text?
A. Yes, I am.
Q. Do you agree with Dr. Volpe's comment that:
"Cephalhematoma is rarely of clinical significance from a neurological standpoint unless a complicating intercranial lesion is present?"
A. I agree with that.

Q. Did you see one with an infected cephalhematoma and meningitis?
A. I would not be surprised.
If you review the literature, there is maybe five or six cases.
Q. It's extremely rare?
A. It is, indeed, rare.
Q. Okay. Would you agree with the management opinion of Dr. Volpe's text:
"No specific therapy is indicated. Evacuation of the lesion is contraindicated."
A. If that refers to the management of an uncomplicated cephalhematoma, yes, I agree with that.
Q. All right. Well, in this case, we have a cephalhematoma that, by no information in the chart, grew or looked fluctuant or had any indication that it was infected, correct?
A. On that first admission?
Q. Yes.
A. That is correct.
By looks, there was no information that it was infected.
Q. All right. And we had a situation where the three things the child came in with, irritability, fever, and jaundice, had all disappeared as signs or

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symptoms at the time of the child's discharge?
A. I would say they had either disappeared or improved.
Q. We were left with some neurologic symptoms that could be explained by causes other than an infection?
A. Yes.
Q. Okay. This child, when born, had a traumatic delivery?
A. That is correct.
Q. In fact, it had a bleed in the subarachnoid space, correct?
A. That's correct.
Q. On subsequent admission, it was shown that the child had subdural hematomas in various parts of his brain?
A. That is correct.
Q. All right. What do you believe those were caused by?
A. Well, those were probably related to the delivery.
Q. If the child had various areas of subdural hematoma and a bleed in the subarachnoid space, is it not reasonable to assume that the CNS symptoms the child exhibited during the first admission could have had a relationship to the delivery as opposed to an infection

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from the cephalhematoma?
A. It is a possibility.
Q. All right. Now, is the bacteria you say not spreading outside the wall of the cephalhematoma until the 11th?
Or, are you saying that some of it is outside the walls of the cephalhematoma?
A. I am saying that it's likely that it was confined to the cephalhematoma until close to the 11th of February.
Q. Okay. What would cause a change in the findings of a lumbar puncture?
A. The inflammatory process is what would cause a change.
Q. The inflammatory process of what?
A. Let me ask you to clarify a change in the lumbar puncture as to when or...
Q. Well, you said a second lumbar tap performed prior to discharge -- which I would assume like the 2nd or 3rd of February?
A. He okay.
Q. -- you think would have shown a change in the first lumbar puncture?
A. Yes, that's correct.
Q. All right. What is causing that to be

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different?
A. The inflammatory process, the infected cephalhematoma, now has had more days to increase the number of cells, to alter the amount of sugar, to alter the amount of protein in the spinal fluid.
And it is possible that a repeat lumbar puncture would have shown those abnormalities.
Q. Notwithstanding that the bacteria inside the cephalhematoma is confined?
A. That is correct.
That's what this parameningeal factor is that I keep referring to.
It doesn't mean that the infection is in the meninges; the infection is actually localized outside of it.
But, you see the reflections, or you see that infection being reflected in the spinal fluid because of the inflammatory process.
Q. And is that because of the proximity of the cephalhematoma to the meninges?
A. It's not only the proximity; it is the inflammatory process that is happening close by, yes.
Q. Well, how is it spreading through the skull bone?
A. Well, no. It's the -- it's a number of

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factors.
Remember, this child had a fissure or fracture at that site that will allow for continuity.
Q. Are you sure about that?
A. Yes.
I am sure there is a report of a fissure or fracture.
Q. It says:
"Tiny lucency on the lateral skull films which may represent a normal fissure versus a tiny fracture in comparison with head CT was recommended."
Do you know if that was done in comparison with the head CT?
A. Not on admission.
Q. Do you know if any subsequent analysis of any head CT Scans or head skull films ruled out any lucency or skull fracture?
A. Not that I recall at this time.
Q. What is a normal fissure? What is a fissure?
A. The skull of a newborn contains bones that are separated from each other.
And as one grows, those bones eventually will attach to each other.
The fissure is that space that separates one bone from the other.

Q. So, the bones aren't connected, correct?
A. In the newborn, they are not.
Q. All right. But, that is not just an opening of the brain; is it?
There is some cartilage that covers over that almost immediately at birth; isn't there?
A. Yes, in general terms, there is.
There is always tissue, I guess is probably – Rather than calling it cartilage, it is tissue that covers that.
Q. And that tissue would operate to create a barrier between anything that would seep out of the cephalhematoma and the meninges?
A. In an ideal circumstance, yes.
But, because this tissue is not bone, you can still have the fusion of the inflammatory components.
And you can still see the effect of an infection outside of the skull be manifested as abnormalities of the cerebral spinal fluid.
Q. Were there any other x-rays or studies suggesting that the areas surrounding the cephalhematoma was damaged, any bone destruction or anything like that?
A. No, there are not.
Q. You are saying now that antibiotics, over a period of ten to fourteen days, would be able to

infiltrate in a walled-off hematoma and kill the bacteria within it?
A. Yes.
Q. All right. Did you read Dr. McGann's deposition?
A. I did. Dr. McGann? Let me. (Indicating).
The infection, yes, I did.
Q. Did you read where she is of the opinion that because of the walled-off area of the cephalhematoma, that it would resist the infiltration of the antibiotics, and plus not kill the bacteria inside of it?
A. I did read that.
And I disagree with that.
Q. You don't think that the -- Well, first of all, a hematoma is a blood clot, correct?
A. That is correct.
Q. And it has a wall?
A. It may form a wall.
Q. Well, if it doesn't form a wall, it will continue to grow like a balloon filling with water, wouldn't it?
A. No, not necessarily.
If the pressure inside reaches a level where it overcomes or is greater than the pressure inside the

blood vessels, you may not have actually further bleeding.
If, today, you get hit by a hammer and develop a hematoma, it's going to take time for the hematoma to develop a wall in order to protect.
It's other mechanisms that stop the bleeding into the hematoma before the wall develops.
Q. Well, how long does it take for a wall to develop in a normal hematoma?
A. I do not know.
Q. Well, assuming this cephalhematoma occurred on the day of birth, correct?
A. That's correct.
Q. Okay. And that he was seen five days later at Children's Hospital?
A. That's correct.
Q. Wouldn't you expect the wall to have formed within five days?
A. It is certainly possible.
Q. If a wall has formed, it would make the delivery of antibiotics inside that wall more difficult, correct?
A. That is correct.
Q. All right. At the point of discharge on February 3rd, I guess that you are saying that there was

a parameningeal process of the infection being around there?
A. That is correct.
Q. Okay. And what kind of symptoms was it manifesting?
A. In my opinion, it was manifesting the symptoms that were still present at that time.
Q. Which was what?
A. The abnormalities in the tone, the downward gaze, the decrease in extensor flexion of the neck.
Q. And those could have been caused by central nervous system abnormality from the traumatic birth, as well, correct?
A. That's correct.
Q. All of those things that you are talking about?
A. Yes, sir.
Q. Okay. If these symptoms are strong enough to produce or if the parameningeal process is strong enough to produce these symptoms, you are saying these symptoms wouldn't progress?
A. What I said is that the symptoms could have a wax-and-wane course.
Q. What is a wax-and-wane course?
A. It is one hour, they could be more prominent and the next hour, they could be less obvious.

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Q. How do you understand the nature of these symptoms progressed from the time of discharge to February 11th?
A. Well, unfortunately, I don't have any way of knowing what happened in that time period.
I have not seen the deposition of the parents or anybody that saw him during this time period.
Q. And would that have been important to you to know?
A. If that information is available, yes.
Q. What is important about the deposition of the parents or the deposition of any health care provider who saw the child in the interim?
A. Well, it would be important to determine what his clinical symptoms were at that time, if there had been progress, if there had been improvement.
Q. How would that be important to you one way or the other?
A. If this increase in tone or some of the other abnormalities that we have mentioned were still obviously present during this time period, it will further strengthen my theory that this, indeed, was a progression of the same process.
Q. And what about the opposite; what if there was no progression of symptoms?

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What if to everyones' observation, the child once discharged on February 3rd, didn't have another thing wrong with him until the evening of February 11th when he was readmitted?
A. The problem is there were abnormalities. They were reflected in the notes.
There was still abnormalities at the time of the discharge.
And the only thing that I can do is compare what were the abnormalities at that time to the abnormalities that were present on the second admission.
So, I don't have the physical exam from the physician to allow me to determine if those had actually decreased or changed.
Q. Would you have expected the child to continue to show signs of irritability and fever?
A. Not necessarily.
Q. Why not?
A. Because the bacterial infection had been suppressed to the point where the fever and the irritability had improved.
Q. Okay. But, apparently that wouldn't have had any effect on the parameningeal irritation?
A. It may have or may not.
Q. All right.

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A. Obviously there was an effect in the sense that the fever had disappeared, and obviously had some effect in the sense that the irritability had improved.
Q. Absent continued treatment with antibiotics, would you expect irritability to be completely absent for over a week?
A. I think in that theoretical setting in a patient who had meningitis, and you had left untreated, not only will the irritability not improve, the child would progress to a very severe involvement and very likely would have died in the absence of antibiotic therapy.
Now, what we have in this case is a compounding situation where antibiotics were given for a period of time that was enough to suppress the majority of the bacterial load, but not enough to kill all of those bacteria.
Q. How do children become infected with e-coli bacteria?
A. In the case of newborns?
Q. Right.
A. It's usually by one of the routes that we discussed earlier, either by hematogenous spread, by becoming first colonized with the bacteria from the mother's genital tract, or by direct inoculation through

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any kind of invasive procedure.
Q. Well, about outside settings, how could a neonate be infected with e-coli if it's not from the mother, from outside sources?
A. Well, e-coli is a bacteria that normally lives in our GI tract.
Fortunately, we are very resistant to it, but if there is any break in the continuity of the GI tract, or a urinary tract infection due to this bacteria, then the bacteria may reach the bloodstream and cause a meningitis.
Fortunately, that doesn't happen very often.
But, the only group where we do see it with certain frequency is in the newborn.
Q. I mean, how do we rule out that he just didn't get an e-coli bacterial infection after he went home on the 3rd, sometime close to the 11th?
A. It is a possibility that he became colonized with the e-coli from the mother, and that the infection didn't manifest until around the 10th or 11th of February.
It is a possibility. However, it's not probable. It's more likely that what happened was this continuity of events that I have been talking about.
Q. I mean, nothing would be unusual time wise that

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because of the rapid progression of an e-coli infection, if he was being diagnosed with an e-coli infection on the 11th, that sometime within the day or two prior to that, that he first contracted the bacterial agent in his body somehow?
A. If you are asking me if that's a possibility, it certainly can.
There is a thing called late onset sepsis in the newborn, in which this is the typical situation.
What doesn't make sense is why was the baby febrile; why was the baby irritable on that first admission on the 31st, and then, have a completely unrelated infection seven days later?
What makes more sense is that it was a continuity of the same infection.
Q. Well, you are assuming, though, of course, he was infected during the first admission.
A. I am assuming that the source of the fever was an infection.
Q. All right. Can a cephalhematoma produce a fever?
A. Not to my knowledge.
Q. Could the cephalhematoma infection have been the cause of the meningitis rather than the other way around?

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A. Well, I think that's just what we have established.
You asked me if the infected cephalhematoma could have been the cause of the meningitis?
Q. No.
I want to know the reverse. Could the meningitis have caused the cephalhematoma to become infected?
A. I guess it's a possibility.
Q. Well, have you read in any standard text that's a complicating factor of the infected cephalhematoma, that is, the onset of meningitis or sepsis then causing the cephalhematoma to become infected?
A. Sure, it is a possibility.
Q. Okay. How do we know that's not the case? We didn't have a diagnosis of infected cephalhematoma until after the diagnosis of the meningitis, correct?
A. Because we don't have an explanation for the first admission where he had the same symptoms, and the symptoms consistent with an infected cephalhematoma is that that's the reason why I believe the sequence of events was the other way around.
Q. We have added factors here, though, don't we?
A. What do you mean by that?
Q. I mean a traumatic delivery manifested by blood

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in the subarachnoid space and several subdural hematomas diagnosed on subsequent imaging studies during the second admission?
A. Yes, we do have those.
Q. That explains a lot of the neurologic symptomatology here, does it not?
A. It may explain some of the neurologic symptomatology.
Q. All right. You said you had an opportunity to read both of the depositions of Dr. Gitlin and Dr. McGann?
A. That is correct.
Q. How long ago did you read those?
A. I reviewed those yesterday.
Q. Yesterday. Okay.
As you sit here today, is there anything that comes to mind specifically that you disagree with on any testimony offered by Dr. McGann?
A. If you will allow me, for a second, to collect my thoughts here. (Indicating).
We already talked about one of the disagreements, and that had to do with the ability of antibiotics to get into the hematoma.
And I also disagree with the statement that it may take weeks for e-coli to multiply and spread to

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other parts of the body.
You and I have already talked about how this bacteria, once it sets into the meninges, tends to be a rapid and aggressive bacteria.
Those are the two points that I would disagree with.
Q. Let me ask you this: Is the, as you say, spread of this infectious process to the parameningeal area – is that virulent enough to cause damage to the brain?
A. Is a parameningeal infection capable of causing damage to the brain?
Q. Yes.
A. Without direct extension?
No, it is not.
Q. Where would I read about this parameningeal inflammatory process?
A. Certainly there are several articles that have dealt with that.
But, you probably could read it in a good neurology or neurosurgery textbook.
Q. Would that also tell me it's impossible to cause any permanent brain injury in a parameningeal process?
A. I don't know if it would tell you that

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specifically or not.
I can think of, for example, a textbook you have already mentioned, the Volpe textbook.
I mean, we had a discussion on parameningeal infections. There are certainly articles written about that.
And whether an infection in the parameningeal abscess can cause brain damage, I don't believe it's been addressed in any books that I can recall.
Q. Hypothetically, though, you believe these neurologic abnormalities were caused by this parameningeal process?
A. Well, I believe that is a feasible explanation.
Q. So, the decreased axial tone, the neck rigidity, the downward gaze?
A. That is correct.
Q. Well, if this parameningeal process is capable of doing all of those bad things in the brain, could it affect the hearing of the brain?
A. I am not aware of any studies suggesting that a parameningeal abscess will cause enough of an inflammatory response to lead to hearing impairment.
Q. Do you know one way or the other?
A. Yes, I do.
I mean, there is no studies that have shown

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that.
Q. And I could find studies that would tell me that a parameningeal process could cause all of these types of abnormalities that this child was exhibiting on February 2nd?
A. Yes, sir.
MR. SPATARO: To speed up, Doctor, I will let someone else.
EXAMINATION
Q. (BY MR. WEINGART) Doctor, my name is Bruce Weingart. I represent Dr. Grechus.
You are not here to express any opinions about the OB care rendered in this case?
A. That's correct.
Q. That's something that is outside your area of expertise?
A. Yes, it is.
Q. What is a nosocomial transmission?
A. Nosocomial transmission means that a bacteria or virus, an infectious agent, has been transmitted within the hospital setting.
Q. Okay. And what is a vertical transmission?
A. Vertical transmission is the transmission that occurs from a mother to a child.
Q. Okay. And that occurs in utero or is that after

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the baby is born or either?
A. It can happen at either point.
Most commonly, for most bacteria, it happens around the peripartum period. In other words, in the hours before or after the delivery.
Q. Can vertical transmission take and what -- Strike that. Let me get my thoughts together here.
Vertical transmission, though, my understanding of it is that could occur after the mother and the baby have gone home?
A. Absolutely.
Q. So, you could have transmission of e-coli bacteria from the mother to the baby in the home setting?
A. Yes.
Q. For instance, e-coli is a common GI tract bacteria, correct?
A. That's correct.
Q. And the mother, for instance, if she had used the restroom and did not properly wash her hands, she could then transmit e-coli bacteria to the infant?
A. That is correct.
However, at that point, it would be more appropriate to call it horizontal transmission, transmission from one to the other.

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Q. So, that would be a horizontal transmission?
A. That is correct.
Q. But, that is a common transmission of e-coli bacteria, horizontally?
A. Absolutely, yes, sir.
Q. And that could happen in that scenario or, at least, that's one of the possible ways that horizontal transmission could take place?
A. That's correct.
Q. Are there other ways that horizontal transmission of e-coli bacteria can take place?
A. Yes.
And I had mentioned earlier that vertical transmission is the one that occurs usually at the time of the passage through the birth canal or shortly before or after.
Horizontal transmission in the household may be the result of breast feeding, normal caring of a child. You know, the changing of diapers, the handling of pacifiers, the normal kissing and hugging that happens when you have a new baby at home.
Q. And in your opinion, the strain of e-coli that the child had in this case was the same as the strain the mother had from the urinary tract infections?
A. I think that there is a high likelihood that

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that was the case based on the susceptibility pattern.
Q. And by "susceptibility pattern," you are talking about the culture results, and it tells you what drugs this particular strain of bacteria is resistant or not resistant to?
A. That is correct.
Q. And you have looked at the mother's cultures, I take it?
A. That is correct.
Q. And which culture result was that?
A. Give me a second and I will find it. (Indicating).
In the records that I have located, it is in the records from his office, a culture obtained at that time.
And unfortunately I am having trouble locating that specific record, but if you want...
Q. At what time?
A. The culture was obtained at the time that she presented on the day that she eventually delivered a baby.
Q. Doctor, I meant to ask you a minute ago.
You can't rule out horizontal transmission in this case, can you?
A. No, you cannot rule it out.

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Q. I am sorry?
A. You can't completely rule it out.
It's a possibility.
Q. It's a possibility that that could have occurred?
A. That is correct.
It's a possibility just like it was a possibility that this was a late onset sepsis.
However, if it has stress, it does make more sense that this was a continuation of the same process.
Q. Doctor, let me give you a hypothetical scenario and I want you to tell me if this is a possibility for what could have occurred here.
That this child did not, in fact, have any e-coli bacteria in his system during the first admission.
That after the discharge on February 3, 1999, that sometime between that date and the second admission, that the mother horizontally transmitted the e-coli bacteria to Randall.
So, is that a possibility of what occurred here?
A. It is some incredibly low possibility.
If we were to categorize the different possibilities or probabilities, again, I have stressed

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in my opinion, it was a progression of the bacteria being acquired shortly after the delivery or -- in the perinatal period. I am sorry. And then, progressing to the picture that we have later.
Q. Why is it an incredible possibility?
A. Because horizontal transmission of e-coli does not seem to be a major player in the late onset of sepsis.
And please understand that I am referring to that if we were to assume that this infection did not start until after the 7th day of life, that would fall into the late onset category.
I still think that a more appropriate possibility is that there was, indeed, vertical transmission, but that it had not become apparent.
Q. But, you can't rule out this possibility of horizontal transmission occurring after the first admission?
A. That is correct, I cannot.
Q. And that would also explain, would it not, horizontal transmission from mother to child, the similarity of the strains, as you have testified to?
A. It certainly would.
Q. And wouldn't that also be an explanation that would be consistent with the fact that the blood

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cultures were negative and that the LP culture was negative?
A. That would be consistent with that explanation, yes.
I have located the culture that you had requested.
It is dated 1-28 of '99 at 1435. And this is a culture that grew an e-coli with the same susceptibility pattern.
Q. And so we are clear, my hypothetical I just gave you of no colonization or no e-coli bacteria in the child during the first admission, horizontal transmission, some time after the first admission, but before the second admission, that would be consistent with what we have here of no positive blood culture during the first admission, no positive lumbar puncture during the first admission and similarity of strains between Randall and his mother found in the second admission?
A. Yes.
Q. And I believe you also testified earlier today that it's possible that there was blood coming both in and out of the cephalhematoma?
A. That is correct, that is possible.
Q. So, taking my hypothetical one step further --

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and I believe you already testified to this -- the cephalhematoma site, in fact, could have become infected from that horizontal transmission because of the exchanges of blood in to and out of the cephalhematoma site?
A. That is correct.
Q. And there was not positive blood culture in this case at all, was there?
A. There was not.
Q. All right. Do you have any opinions as to whether or not Randall had any permanent injury just from the delivery process, itself?
A. No, I do not have any opinion.
Q. In the immediate postnatal course -- and I am talking about the day of delivery up until discharge from the hospital on the 27th -- did Randall have any neurologic manifestations?
A. (No answer).
Q. And if you don't know, that's fine.
A. Well, I don't recall any neurologic manifestations.
Q. And would you agree with me that neonates are especially susceptible to bacterial meningitis caused by e-coli?
A. Yes, they are.

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Q. And that's because they have not well developed autoimmune systems?
A. It's probably a number of reasons, but we believe that one is their immune system is not fully functional or to the level that you would expect with an older child.
They may also have to do with the amount of exposure that a newborn gets. And it may also have to do with the antibodies.
You and I have been exposed to e-coli on multiple, multiple occasions, and certainly have antibodies and other protective mechanisms that have kept us from developing any of these infections.
But, certainly in the newborn, it is, indeed, an important pathogen, just like other bacteria, ruby strep that we only see in that age group.
Q. And e-coli is the predominant causative agent for neonatal meningitis?
A. It is the second most common one.
Q. To Group B Strep?
A. That is correct.
Q. Doctor, does a C-Section delivery increase the risk of the infant contracting e-coli meningitis?
A. No, it does not.
Q. You haven't seen any literature or studies that

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have shown that it does?
A. That doing a C-Section increases --
Q. -- increases the risk of e-coli meningitis?
A. No, I am not aware of any such thing.
Q. You are not saying that those studies don't exist; you are just not aware of them?
A. That is correct.
Q. And Doctor, a cephalhematoma, itself, is generally a benign condition, or a condition not requiring any special treatment?
A. That is correct.
Q. Doctor, are there figures as to what percent of the population are carriers of the bacteria that cause meningitis?
A. In the case of Group B Strep, we know that somewhere between 25 to 40% of women here in the United States of child bearing age are carriers of the Group B Strep bacteria.
Q. What about e-coli bacteria?
A. Well, e-coli, probably the number is even greater.
However, I am not aware of specific studies looking at that, because I like Group B Strep which we can do preventative measures, and we can predict the possibility of infection.

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With e-coli, we don't have that capability.
Q. But, it would be at least as high as the figures you gave me for Group B Strep?
A. If not higher.
Q. Do you know the figure as far as e-coli meningitis in neonates, what percentage of neonates get meningitis have it from e-coli bacteria?
A. Yes.
In the United States, it's responsible for approximately thirty percent of the bacterial meningitis in the newborn.
Q. Doctor, meningitis can occur in the absence of a cephalhematoma, can it not?
A. Absolutely.
Q. And actually, that's how it normally occurs.
A. That's the most common.
Q. Without a cephalhematoma or without a subdural hematoma or any type of a subgluteal bleed, that's the most common way you see meningitis in the absence of those things?
A. That's correct.
Q. All right.
A. If I may clarify a question that you had earlier and here is what I was looking for. (Indicating).

Q. Sure.
A. You had asked me if there was any evidence of neurologic involvement while the baby was in the newborn nursery, and I had said no.
And that's still my answer, but I do want to point out that the notes do reflect that he had hypotonia, decreased tone.
That can be from many reasons.
But, I just wanted to --
Q. It is not uncommon in deliveries to have hypotonia immediately after the delivery, is it?
A. That's correct.
Q. That's not something that you would consider permanent in nature?
A. That is correct.
MR. WEINGART: Go ahead.
MR. VENKER: I represent Parkland Health Center.
I have just a few questions for you.
THE WITNESS: Yes, sir.
EXAMINATION
Q. (BY MR. VENKER) Doctor, are you aware of any literature or textbooks that deal with the phenomena you have talked about, the walling off of the cephalhematoma such that antibiotics could get in and permeate through

the wall, and yet, the bacteria inside the cephalhematoma could not get out?
A. No, I am not aware.
Q. The body, at times, does develop a walling off of abscesses, doesn't it?
A. Yes, it does.
Q. Doesn't that prevent the abscess, the purulent material, from spreading?
A. Yes, it does.
Q. Okay. In those situations, that makes it certainly more difficult than ordinary for antibiotics to permeate that walled-off abscess area, doesn't it?
A. Definitely.
Q. Does the presence of the cephalhematoma here really play any role in your opinions?
I mean, this baby wouldn't have had to have a cephalhematoma to contact this meningitis, would he?
A. No.
In this case, I am of the belief that the cephalhematoma acted as a growth media.
That was the perfect petri dish.
The bacteria that, you know, in many cases, may have been controlled by our immune system, or, this baby's immune system found this blood, and that was the perfect place to replicate and go unchecked from the

immune system.
Q. Unchecked. But, in your theory, even unchecked but, within the walled-off area of the cephalhematoma?
A. At that point, during the time of the first admission, yes.
Q. You mentioned earlier some textbooks that you either recognized or considered authoritative.
And I think you mentioned or you were asked about Nelson's?
A. Yes.
I said it was a reliable resource. I do not consider that an authoritative publication.
Q. Are there any textbooks in the area of pediatric infectious diseases that you consider authoritative?
A. No, there are not.
Q. Are there any that you turn to, yourself, when you think of referring to or turning to a textbook that you trust and rely on?
A. Yes, there are.
Q. Can you give me a list of those.
A. Yes.
Probably the most commonly used one is Feigin and Cherry.
Q. When you say the "most commonly used," you mean

by you?
A. By me.
Q. All right.
A. Feigin and Cherry is a textbook of the pediatric infectious diseases.
Q. All right. Any others?
A. There is a textbook called Mandell, Douglas and Bennett.
Q. Can you spell Mandell.
A. M-a-n-d-e-l-l.
Q. All right.
A. Douglas and Bennett.
Q. All right.
A. The Principles and Practice of Infectious Diseases.
Q. Okay. Any others besides the Feigin, Cherry and Mandell texts that you refer to routinely?
A. Specifically in terms of infection in the newborn --
Q. Yes.
A. -- then there is a textbook by Remington and Klein --
Q. All right.
A. -- called Infections in the Fetus in the Newborn that I believe is a good resource.

Q. Okay. Any others?
A. No, sir.
Q. All right. Mr. Fahrenkrog said earlier, Doctor, that although you were not – he was not going to be asking you the standard of care opinions, that he might -- objective standard of care opinions he described – I guess, in his own words, something called subjective standard of care.
I am not sure I know exactly what it means, but let me ask you this:
Do you have any such opinions of a subjective standard of care dealing with the actual delivery of Randall Parker at Parkland Health Center in January of 1999?
A. I have never encountered a legal definition of the subjective standard of care.
Q. Nor have I.
A. Specifically as to your question, no, I do not.
MR. VENKER: Thank you.
I have no further questions.
MS. BARTOSIAK: I have nothing.
MR. SPATARO: Just a follow-up, Doctor.
EXAMINATION
Q. (BY MR. SPATARO) Kernicterus is what?
A. Kernicterus is a syndrome or entity that is

characterized by damage to the brain due to high levels of bilirubin.
Q. And I think we have already established that when the child appeared at Children's Hospital on the 31st, he had an elevated bilirubin level, is that correct?
A. That's correct.
Q. That quickly came down once treatment was instituted?
A. That's correct.
Q. Okay. Did you, on any review of the records in this case, come to any conclusions that this child developed a condition of kernicterus?
A. To be honest with you, that is not one of my areas of expertise, so I would not be able to tell you "yes" or "no."
I do not see anything obvious at this time in terms of the hearing deficit being caused from kernicterus.
Q. Well, based on your level of expertise, is there anything in this record, hearing loss or otherwise, that would support the notion that this child developed kernicterus?
A. I do not have an opinion to that.
Q. Let me just ask what I neglected.

You did read, also, Dr. Gitlin's deposition.
Is there anything that strikes you at this moment in time that you disagree with as far as Dr. Gitlin's statements in the deposition?
A. If you allow me for a second.
Q. Sure.
A. Okay. I disagree with his assessment that the type of symptoms that he showed during the first admission would be fully explained by the cephalhematoma.
I also disagree with his comment that meningitis is not diagnosed by the results of the CSF lab work.
Q. That it is not diagnosed?
A. That was his – he said that meningitis is not – the diagnosis of meningitis is not established by looking at the lab work.
Q. Do you believe it is?
A. I believe that the diagnosis of meningitis ultimately relies on the results of the culture.
Q. Well, did not Dr. Gitlin rely on the results of the blood and CSF cultures and the child's improving condition in his decision to discharge him and discontinue the antibiotics?
A. I believe that that's what he relied on.

That's what his testimony is.
Q. All right. And is it your opinion that Dr. Gitlin attributed all of this child's abnormal symptoms in the admission to the cephalhematoma?
A. I believe that what he said is he attributed this to the trauma at birth.
Q. Well, that's more than the cephalhematoma, isn't it?
A. Yes.
Q. Okay. And in fact, we have pretty good evidence of that via the imagining studies of the child's brain, and that there is more to this than the cephalhematoma?
A. That's correct.
MR. SPATARO: That's all I have.
MR. VENKER: Nothing further.
MS. BARTOSIAK: For the record, I would like the exhibits attached if you could take the exhibits and make copies and attach them to our transcripts, and then, return the originals to the doctor, if you would.
COURT REPORTER: Yes, ma'am.
CHANGES AND SIGNATURE
PAGE LINE CHANGE REASON

JURAT

I, ARMANDO G. CORREA, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

ARMANDO G. CORREA

THE STATE OF TEXAS)
COUNTY OF HARRIS)

Before me, _____, on this day personally appeared ARMANDO G. CORREA, known to me (or proved to me under oath or through _____) (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2002.

NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS

THE STATE OF TEXAS) SS:

I, Bobbie Ames, a Certified Shorthand Reporter for the State of Texas do hereby certify that the foregoing deposition, as set forth in transcription, is a true and correct transcript of the proceedings had at the time of taking of said deposition.

IN TESTIMONY WHEREOF, witness my hand on this the 30th day of August, A.D. 2002.

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