DOC. 272

The State of Ohio)
Cuyahoga County)

IN THE COURT OF COMMON PLEAS

JOANNE GRANT, Admrix. etc., et al.)

Plaintiff,)

vs.) Case #136464

MOUNT SINAI MEDICAL CENTER, et al.)

Defendant)

Deposition of MICHAEL MACKNIN, M.D. a witness taken before SHIRLEY TITCHENELL Notary Public within and for the State of Ohio in this cause on FRIDAY the 11TH day of NOVEMBER 1988 at CLEVELAND CLINIC, BLDG. A, THE PEDIATRIC LIBRARY Cuyahoga County, Ohio at 9:05 A.M. Pursuant to notice sent to counsel, this deposition was tape recorded by Legal Electronic Recording, Inc.

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APPEARANCES

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For the Defendant

P-R-O-C-E-E-D-I-N-G-S

Dr. Michael Macknin, of lawful age, a witness herein having first been duly sworn as hereinafter certified, deposes and says as follows:

DEPOSITION OF DR. MICHAEL MACKNIN

BY MR. GOLDENSE:

Q Would you state your name and spell your last name of the record, please?

A Michael Larry Macknin. My last name is M-A-C-K-N-I-N.

Q Doctor, my name is David Goldense. We met briefly before we started this deposition this morning. I trust that by now, you know that I represent the estate f Orlean Grant, a minor, in connection with an action pending in Cuyahoga County, arising out of the death of Orlean Grant, subsequent to treatment she received at Mt. Sinai Medical Center, is that correct? Do you understand those facts so far?

A Yes, I do.

Q Good. I'm going to ask you a series of questions this morning. You see that we are tape recording, electronically, your testimony. It's important that you answer everything out loud. While I could see you nod your head, it won't come out if the court reporter is

asked to transcribe this testimony down the road. Okay?

A Yes.

Q Thank you. For the record, you have handed me a curriculum vitae of yours, consisting of eight pages, is that correct?

A That's correct.

Q Have you had an opportunity to update this, so that it is basically current to the present time?

A It is basically current, yes.

Q So at the present time, you are the chief in the section of general pediatrics here at the Cleveland Clinic?

A That's right.

Q And you are also currently serving as an assistant professor of pediatrics at Western Reserve, and Rainbow Babies and Children Hospital at the present time?

A That's right, but that's not a very active appointment. They have cut back their medical school affiliation. I am more affiliated with the University of Penn State Medical School right now. We haven't formalized the academic appointments there, but I am director of the teaching program for the medical students from Penn State here at the clinic in pediatrics.

Q You graduated Ohio State in 1971. So Luke Whittey

was a sophomore your senior year?

A We were on the team together.

Q He was a sophomore your senior year.

A That's right.

Q That's the team with Jimmy Clemmons?

A He was the captain.

Q Clemmons and you were in the same class?

A That's right.

Q Where did you go to high school?

A Mayfield.

Q Mark Wager was what? A year behind you?

A He was also a sophomore. Mark Miner was a year behind me. You're a good fan.

Q I went to a little school thirty (30) miles east of there, and I played high school ball against Whittey a couple of times, so it was a team that I was always aware of the composition of. Let's get to some important matters.

I understand you go to Ohio State. You graduate in 1971, and then you go to medical school at Harvard, and you graduate in 1975, is that correct?

A That's correct.

Q And then your first training post graduation from Harvard Medical School was at Massachusetts General?

A That's right, two years.

Q And that was a two year residency that you served there in pediatrics?

A That's right.

Q What is level one and level two when we talked about--when you say here on your CV, pediatric level one and pediatric level two?

A That's what used to be called internship and first year residency.

Q So level one would be analogous to an internship?

A Internship.

Q And level two would be your first year residency?

A That's right.

Q Then you followed up at Boston Children's Hospital for what looks to me to be a one year fellowship in ambulatory pediatrics?

A At that time, you could combine your fellowship with your third year residency. So my first year of fellowship was also considered my final year of pediatric residency in general pediatrics. It was a fellowship in general pediatrics. And then my final year at Boston Children's, the fourth year of my training, I was the outpatient chief resident, plus I was doing the second year of my ambulatory fellowship. I was doing two things at once.

Q I'm sorry, you were fourth year outpatient chief

resident?

A I was the outpatient chief resident.

Q And what else?

A It was the final year of my ambulatory fellowship, my fellowship in general pediatrics.

Q Explain for me, starting with your medical--first of all, before you went to Harvard, did you work in any emergency rooms, while you were an undergraduate at Ohio State?

A No, I didn't.

Q What was the first exposure you had to emergency room care in your medical training?

A Probably the first intensive exposure, other than walking through and just seeing what was going on in the emergency room, was as a medical student.

Q And that would have been at Harvard, between '71 to '75, right?

A That's correct.

Q Tell me about it. The intensive training that you had at Harvard in emergency room care.

A There were several different experiences in medical school. At just about every rotation, for instance on my surgical rotation, I was in the emergency room for, I guess a week's period of time, taking care of minor trauma. Are you interested primarily in my pediatric

emergency room experience, I would assume?

Q Yes.

A So in pediatrics, the emergency room experience I had as a student, as a third year student, at Boston Children's Hospital, we would occasionally go down to the emergency room and see patients, but generally, that was mostly based on the floor. And then as a fourth year medical student, I was kind of what they call an acting intern at a community hospital, Cambridge City Hospital. And at Cambridge City Hospital, we were, as fourth year students, to a great extent, in charge of the whole hospital, in the evening particularly. We would be on with rotating interns, who weren't that interested in pediatrics, quite frankly. They would pretty much tell us to run the show, and wake them up only in cases of dire emergency. So we covered the emergency room in a fairly busy community hospital, and would to a great extent, do that by ourselves. And I did that for a month's period of time.

Q For one month?

A That's right. That was in medical school. That was as a fourth year medical student.

Q And then it appears that--let me just ask the question. When did you next have exposure to emergency room care, from a pediatric standpoint, subsequent to

graduating from Harvard?

A Then as an intern at Massachusetts General Hospital, and as a resident at Massachusetts General Hospital.

Q And that was this internship and first year residency in level one and level two?

A That's right.

Q I see here from your CV that it looks to me like you spent a twenty-four (24) month period of time between 1975 and 1977 in that two years of internship and first year residency. Is that how it works?

A That's right.

Q Let's see if we could do it this way. Of those twenty-four (24) months, how many months would have been devoted to emergency room service, where you had a focus on pediatric care?

A It was several months, and I can't tell you exactly how many, but it was many--it was several or many months, four or five.

Q Four or five months maybe?

A Four or five months would be entirely emergency room experience. Again, we also spent time as residents at Cambridge City Hospital, where I had--they had changed the rotation by then, where they had pediatricians more in charge of the emergency room at

Cambridge City Hospital. So I became more intimately involved in the emergency room at Cambridge City Hospital, and also at Massachusetts General Hospital. I was at a community hospital for some of my emergency room experience, plus at Massachusetts General Hospital.

Q Then you were a fellow in ambulatory pediatrics at Boston Children's for what looked like, what, a twelve (12) month period of time?

A Actually twenty-four (24), because that second twelve (12) month period is really part of the fellowship in ambulatory pediatrics.

Q Now of that twenty-four (24) month period of time, when were you at Boston Children's, was the substantial portion of that time spent working with pediatric emergency room patients?

A The first year, a great deal of time--all my night call was in the emergency room. We were in charge of the emergency room at Boston Children's Hospital as fellows. We would be the most senior person in the emergency room in the evenings. So about every fourth or fifth night, we were in charge of the emergency room that would see several hundred patients a day, and we would be the ones that were supervising in the evening. We also had some calls during the day in the emergency

room, and it was our responsibility to supervise what was going on, do a lot of teaching, and plus see patients on our own. And we also had an opportunity to do some moonlighting to help out, because a lot of times there weren't enough residents. So while one of our fellow fellows would be supervising the emergency room one evening, we would be helping out, seeing patients. So I had direct hands-on experience seeing patients, plus I was oftentimes supervising the emergency room in the first year during the day and nighttime. And then the second year of my fellowship, I pretty much was in charge of the teaching in the emergency room. I was in charge of the teaching program in the emergency room at Boston Children's Hospital during the daytime hours. So I organized the teaching program, would spend a large portion of my time, probably half my time seeing any case that the residents had any questions about, and basically supervising just about all that went on in the emergency room, and seeing--really being responsible for hundreds of patients a day, probably.

Q So now at that point, if I may interrupt you...

A Sure.

Q ...you have reached a point where your pediatric experience is becoming part of your general supervisory

function over the staff in the emergency room. Is that a fair statement? I mean the pediatrics are now just a subset of all the universe of patients who are being seen in the emergency room?

A No, that's all pediatric patients. At Boston Children's Hospital, everybody that came was a pediatric patient, and I don't know the exact numbers that we would see. I don't know if it was one hundred (100), two hundred (200), or three hundred (300) a day, but it was many patients a day. And as I said, during the day, I was in charge of the teaching program, and that primarily involved just going over the children that came into the emergency room with the residents, and talking with them about the patients, going into the rooms, examining the patients, and then discussing management plans with them.

Q And then the next year, when you were outpatient chief resident, how did...

A No, that's when I was outpatient chief resident. I was supervisor of the supervisors in my second year. In my first year, I was still in a supervisory role, but the person that was the chief resident didn't take as active a role in overseeing the emergency room. The person that had the position that I had my second year of training, when I was in my first year of training, if

that makes sense, didn't really take that active a role in the emergency room. That wasn't a particular interest that he had.

Q I got confused when you said twenty-four (24) months occurred in '77, '78. What we're talking about, twenty-four (24) months represents the two positions?

A '79, that's right.

Q These two positions?

A That's correct.

Q I understand now.

A I kind of redefined the job, because I had a particular interest in emergency room care and teaching the residents in an outpatient setting. I took a more active role in the emergency room than my predecessor had as chief resident.

Q And it appears to me that after you finished that twenty-four (24) months, and you finished your fourth year of residency, if you will, at Boston Children's, you then took a position at the University of Chicago?

A That's right, Michael Reese Hospital.

Q And you were an instructor of pediatrics there for a twelve (12) month period of time?

A That's right.

Q And then you returned to Cleveland in 1980, and have been here ever since?

A That's correct.

Q Now when you first came to Cleveland, where did you go to work?

A At Rainbow Babies and Children's Hospital.

Q And spent two years there?

A That's correct.

Q So you were at RB and C for twenty-four (24) months, approximately?

A That's right.

Q And then came to Cleveland Clinic?

A That's correct.

Q Tell me a little bit about your twenty-four (24) months at RB and C.

A You're not interested in Michael Reese then?

Q You want to tell me about Michael Reese? Tell me about Michael Reese.

A It's the same kind--it's a walk-in experience, too. It was primarily precepting an emergency room. It was more a walk-in clinic than a true emergency room. There wasn't acute trauma there, but all the sick kids would come in for their walk-in care, and I didn't have much, if any responsibility for direct patient care. I was primarily supervising residencies, and their continuity of care clinic, which was their well child clinic, that they followed patients longtitudinally, plus all the

sick children from the area who came to the hospital would be seen by the residents first, and then I would precept them. We would again discuss the cases, and I would go in and examine the patients.

Q Excuse me. Is Michael Reese Hospital located right next to the University of Chicago on the south side?

A It's on the south side. It's not right next to the university.

Q How far from the university is the hospital?

A It's several miles.

Q West of the university?

A It's pretty much along the lake. It's in not a great neighborhood of Chicago, on the south.

Q That's going to become an issue in this case. That's why I asked where the hospital is.

A It's in the south side of Chicago, and it serves to a great extent, the outpatient population, who is a poor black population.

BY MR. IRWIN: Dare I ask how the location of Michael Reese is relevant to this case?

BY MR. GOLDENSE: I'll get there.

BY DR. IRWIN: Okay.

BY MR. GOLDENSE: I'll get there, okay?

BY DR. IRWIN: Good.

BY MR. GOLDENSE: Then I may even have a reason to keep you awake this morning.

BY MR. IRWIN: No, you're doing that. That's fine.

A Are we going to get to Rainbow now?

Q Yes. Is there anything else you can think that's important about your experience pediatrically from an ambulatory care standpoint at Michael Reese that you didn't tell me about?

A Not that I can think of, no.

Q Now you are at RB and C for twenty-four (24) months.

A That's right.

Q Tell me what the nature of your experience there was.

A I was in charge of what they called the team, and basically what I did was I had a small practice of my own, where I would see patients as a general pediatrician myself, and I would spend the majority of my time, again precepting residents who were seeing patients in that setting. And we wouldn't see, again, the acute trauma, or the children in shock, but we would see all the sick kids. They instituted a program whereby the emergency room, during the day, wouldn't see walk-in patients, because it was felt to be a better setting

for them to be seen in the outpatient department, and not in the emergency room setting. It was just more efficient for a variety of reasons. And so we saw all the sick kids, who weren't deathly ill, and the residents would generally see them first, though as I said, I had my own private practice there, too, that I would see children without residents helping me. But most of the time, I would be precepting the residents in the outpatient department, seeing either well children, or sick children with walk in illnesses.

Q And that was for two years?

A That's correct.

Q Did you maintain your private practice throughout that period of time?

A It's called a private practice, but it's really all part of the university. Everybody is on salary.

Q You didn't have a separate office of your own?

A No, it was university based, and I was there full time.

Q I understand. So you had a continuity of doctor-patient relationship?

A That's correct.

Q And that's what differentiated it from what I gather to be all of your experience prior to that time?

A I had some continuity of doctor-patient

relationship as an intern, resident, and fellow, but that was a relatively minor part of my practice.

Q But now you--excuse me, strike that.

At RB and C, you would have patients routinely returning to you for their well care visits?

A That's right, which I didn't have at Michael Reese. Which I had only slightly the first four years of my training.

Q So that's why you call it a private practice?

A That's right.

Q Because it was private to you?

A That's right.

Q I understand. And you then became chief of the section of general pediatrics here at the Cleveland Clinic in 1982?

A That's correct.

Q Tell me your job description here at the Cleveland Clinic Foundation.

A Initially I did two things mainly. I was in charge of the primary care department. I was director of pediatric primary care, and I was also doing consulting general pediatrics. Basically what happened is, three doctors left the clinic, and they hired one doctor and a nurse to replace them when I first came in, and I only was head of primary care, I'm trying to remember. I'm

trying to recall now, I think it was probably two years that I was in charge of primary care, which is the employee's health service basically, and you take care of the kids of the nearly ten thousand (10,000) employees here. And I supervised that. It was primarily, again, a continuity experience, where I would have private patients, plus we also had residents who worked with us, and I would precept them as they saw the patients.

Q You keep using the word precept. Can I have a definition of precept, please?

A Precept means that you see patients with residents, and the residents will see the patients, and talk with the patients, and then present the cases to you, and I usually have them present the cases, tell me about why the patients are here in front of the patients, and then I talk with the families, also, and then I go over their examinations. And then I sit and talk with the residents, and we decide what the most appropriate care will be. And that's what I mean by precepting.

Q Thank you. Why did you leave Rainbow Babies and Children's to come to the Cleveland Clinic?

A Because, for one thing, I liked my job at Rainbow a great deal, but the clinic pretty much let me write my own job description. I wanted to continue to provide

continuity of care. I wanted to have the opportunity to do teaching, do clinical research, and to be able to do consulting general pediatrics, which is get difficult cases from the community. The Clinic pretty much let me write the job description for the job I always thought I would like to have, and it was just too good an opportunity to pass up.

Q What were the restrictions at RB and C that were lifted when you came to the Clinic?

A The restrictions?

Q Yes.

A I think I had more control over what I was doing. This is a doctor-run institution that relies a great deal on your input into your practice, and trying to make the institution responsive to the needs of physicians, and in a university setting, it's pretty much a dictatorship, where you don't have much say in what's going to happen from day to day with your practice. You don't have much input into what's going to happen. If the chairman of the department decides that you're going to spend more or less time doing one activity or another, and you really don't have much say about that.

Q You have testified before in your life, in a deposition?

A I think a couple. Two or three times, I think. I can remember the last case. I'm not sure if I had one more before that, or not.

Q When was the last case, how long ago?

A A year or so. My secretary would have it better than I would. I don't know. A year or two.

Q Were you offering expert opinion?

A Yes, I was.

Q On behalf a defendant claimed to have committed malpractice?

A I was on the prosecutor's side in a malpractice case.

Q So you were representing the party claiming to be the victim?

A That's right.

Q Of the malpractice.

A That's right.

Q How do you know John Irwin?

A Primarily, when he was a medical student here at the Cleveland Clinic, doing pediatrics, I was in charge of the teaching program for the Case Western Reserve medical students, and John was a medical student here from Case.

Q Have you testified at his request in any other lawsuits?

A I don't think--no, I haven't.

Q Have you given him written report for use in other cases, other than this one?

A No.

Q I see that your CV contains categories with respect to my question: committee memberships, presentations, TV and radio, appearances, I assume, publications, book chapters, letters to the editor, articles, abstracts, grants, research activities and awards. And before I try and read each one of them, have you, with respect to those categories I just went over, gotten involved with the research, or do any of the--let me ask it this way. In those categories I just mentioned, do any of them deal with occult bateremia?

Q Certainly a lot of the presentations I have given, a lot of the teaching activity I had, I had discussion with residents and interns. Occult bacteremia is in a lot of conferences. I doubt I would even have put that into my CV, but a lot of teaching conferences pertain to it in the institutions.

Q You know where here about a meningococcal infection, I trust by now.

A That's right.

Q Do we have, in any of these particular writings or presentations that I have just referred to in the CV,

any particular papers or presentations, or research, or book chapters, or the like, on meningococcal infections?

A Not specifically meningococcal infections.

Q So there is nothing I can go to at the library to find out what you have written elsewhere about meningococcal infections, is that fair?

A That's correct.

Q It sounds to me like, if I may say so, you had substantial experience in ambulatory pediatric care, prior to this case occurring in November of 1986?

A I would agree with that.

Q Fair enough. How many cases of meningococcal infection do you think you have found and diagnosed, in your experience from Boston, to Chicago, to Cleveland?

A I'm not sure of the exact number. I would say maybe five, probably. Obviously a very rough guess. I don't know for sure.

Q I'm going to need to get some more working definitions from you. Define sepsis for me, in the context of pediatric emergency care.

A I think sepsis has to be distinguished from bacteremia.

Q Fine. That's what I'm going to need. I'm going to need definitions today.

A Bacteremia means that you have bacteria in your bloodstream, and sepsis, in the context of bacteremia, means that you have bacteria in your bloodstream, plus it implies that if somebody is septic, it implies they have a very significant, overwhelming illness.

Q Characterized by what? Sepsis meaning a bacteria in the bloodstream, and an overwhelming illness, which is characterized by what?

A I think the primary thing that you can generally hang your hat on, I don't know if you want to go through history first, or physical examination. By history, if you're taking the history of a child who is septic, generally you get the story from the family that the child isn't behaving normally. They are ill appearing. They aren't responsive. What I oftentimes like to talk to the parents about, if I'm trying to do it over the phone, or even with them, can you get the child to smile. Can you get the child to play with you, are they responsive. Usually, if the child has an overwhelming illness, they don't perk up. If they're not overwhelming ill, they have good times mixed with the bad. Just about every child who is sick, looks awful sometimes. But if they aren't overwhelming ill, they usually have times when they are perky, and active, and playful. And so in obtaining the history of a child that I'm concerned

about the possibility of sepsis, that's what I focus in on most, whether or not there are good times mixed in with the bad. I also ask about kind of start from the head down, and try and localize where the infection might be coming from. So if it's an older child, do they have headaches. In a younger child, or older child, do they have ear pain, are they batting at their ears, just trying to localize the infection.

Q You again, just to make sure that the record is clear, you're talking now about trying to reach a diagnosis in a septic child.

A That's right. I'm trying to...

Q This is a diagnostic process you're dealing with.

A What I do is history, and then I do a physical examination, and then I do laboratory tests, and then formulate an impression. If I was trying to--you're asking me how would I define a septic child, and I'm trying to answer as if I was the examining physician.

Q Fine.

A In the case of a child coming into an emergency room setting. And so I don't know if you want me to go through the whole organization.

Q Please. Now you're talking about the physical--history.

A I'm talking about history.

Q I'm talking more about history, that I would ask the parents trying to localize from history where the source of infection might be. So I would ask about runny nose, sore throat, difficulty swallowing, again moving down, difficulty with breathing, coughing, nausea, vomitting, diarrhea, if there are urinary symptoms, if there are joint symptoms. I would ask about skin rash. In the history, I would ask about exposure to other ill children, that I try to get a feeling for whether or not this child had other antecedent illnesses that would predispose him to a serious infection. So I would ask about hospitalization, surgeries, any medications they might be on, because sometimes parents forget to let you know key facts that might particularly predispose their child, and usually if that child hasn't been in the hospital, or had any surgery, or hasn't been on any medications, they don't have any significant chronic illnesses that would predispose them to becoming significantly ill. And then as I did a physical, sets the history pretty much in a child that I'm concerned about the possibility of sepsis. If I do a physical examination, the first and foremost thing I would look at is to see how the child looked. Kids oftentimes can't tell you how sick they feel, so you have to rely on their responsiveness, whether they make good eye

contact, whether they smile, whether they are consolable, and just to look at their general level of activity, seeing if they are moving all extremities. And then I would get a set of vital signs, including pulse, respiratory rate, blood pressure, temperature, height and weight. Height is not so important in acute episodes, but I would like weight as kind of a baseline value, in case the child's appetite goes down. You want to see if in the future, they are losing weight. And then I do a general physical examination. But again, I think the most important thing is the general appearance of the child, and then a new general physical examination, just kind of go from the head down. In the young child, when you're looking at the head, you would particularly be interested in a bulging fontanel.

Q Until what age would you be concerned about a bulging fontanel?

A Usually the fontanel is closed by about nineteen (19) months. Eighteen (18), nineteen (19) months. Some children close earlier, but just about all kids are closed a little after a year and a half. And I would also look at whether or not the neck was supple. Again, that's not a real reliable sign in a very young child. There is some literature to suggest that under eighteen (18) months, it may not be as reliable a sign, but if

it's present, it's helpful.

Q What is neupal rigidity?

A Neupal is neck, and rigidity means stiff. So you have a stiff neck.

Q And that's what you're talking about now?

A That's right.

Q You would check for neupal rigidity, but again, it's not real reliable in an eighteen (18) month old?

A That's right.

Q Because they are pretty supple under any circumstances.

A That's right.

Q That's the problem.

A That's right, and also other meningeal signs, other signs that are irritation of the meninge. So if you extend their legs, if you flex their hips and then extend their legs, there is something called a Kurnig sign, where if you do that, their neck will come forward, and in some cases of meningeal irritation. So head, eyes, do an eye examination, ear examination, looking for signs of ear infection, nose, for congestion, look at throat, and then check for swollen lymph glands, do an examination of the chest, heart, abdomen, and genitalia, extremities. May or may not examine the genitalia in a kid whose got a fever, but I

would examine the extremities and the skin, and try to get an idea from all those things, whether or not there were other signs of significant illness, and then from there go on in defining sepsis. Again, defining sepsis, the main thing is, again, the appearance of the child, but as far as--I don't know if you want me to go into anything more than that.

Q Let me ask a couple of specific questions. No, that was very helpful for me. Is low blood pressure an essential ingredient of reaching a diagnosis of sepsis?

A It's not essential. It's helpful. If it exists, it's very suggestive that the child is significantly ill.

Q But you can live in Boston, and we know you're in Massachusetts. If you have low blood pressure, you probably have sepsis with some of these other symptoms we're talking about. But is it also true that you can live in Massachusetts and not live in Boston, meaning that low blood pressure is not an essential finding of a septic child?

A That's right, particularly in children, because children have very reactive vascular trees. So they can maintain their blood pressure.

Q I'm sorry. They have very active?

A Their blood vessels can open and close real nice.

They aren't hardened like mine might be. They can maintain blood pressure by clamping down, the blood vessels get narrower, and you have good pressure maintained until really just before they might become shocky. So they can maintain a blood pressure quite well, until just before they might have their demise.

Q While we are on the business of definitions, would you define differential diagnosis for me, in the context of pediatric emergency room care?

A Differential diagnosis is coming up with the possibilities in a given case. So what could this possibly be? Usually when you see somebody, you have what you feel is the most likely, the second most likely, third most likely, and the differential diagnosis is listing all those, the possibilities that a given situation may actually be.

Q Any other definitions I think I need? I think that's enough for the time being. I see that you've got a file here today.

A That's right.

Q And this is a file of information that you've had a chance to review in connection with this case.

A That's correct.

Q It's a silly question. You obviously had nothing to do with the care, management, or treatment of Orlean

Grant, a minor at Mt. Sinai Hospital?

A That's correct.

Q You never happened to see her in any other context?

A Not that I know of.

Q Say a well care visit.

A Not that I know of, no.

(OFF THE RECORD)

Q Doctor, the record should reflect that I've had the opportunity to go through the file that you have maintained, and let me just tick off some of the highlights of what I've found, to make sure that my reading is correct. First, you wrote a report to John Irwin, dated June 29th, 1987, summarizing your review and offering an opinion in connection with this case, is that right? And that's your June 29th, 1987, letter. It should be in that file there.

A Okay.

Q At the time of writing that letter, you had had the opportunity of reviewing the emergency room record for Mt. Sinai Hospital, correct?

A That's right.

Q And at that time, you had also seen the autopsy report from the Cuyahoga County Coroner's office, is that correct?

A I believe so. I'm not sure if the microscopic

report was available at that time or not.

Q There is a letter from your attorney to you, transmitting that to you, with enclosures.

BY DR. IRWIN: Objection to the reference of me being his attorney.

BY MR. GOLDENSE: I'm sorry.

Q An attorney acting on behalf of Mt. Sinai Hospital, had forwarded to you on July 8th, 1987, a complete autopsy report, is that correct?

A That's right.

Q And earlier than that, May 19th, 1987, had sent some coroner's records with respect to the decedent, is that correct?

A That's correct.

Q So if I understand you, when you wrote your report in June of 1987, you had not seen the report laboratory findings from the coroner's office, nor the autopsy protocol, is that correct?

A As I said, I think I had a preliminary autopsy report, but I don't think I had the final microscopic.

Q Had you any other information at your disposal, particular to the care and treatment of this child, at the time of writing your June 29th, 1987, letter?

A Not that I recall, no.

Q Now prior to testifying today, it appears that

other information has come to you about this case, is that correct?

A I got the microscopic report.

Q Right, and did you not also receive a report from Dr. Joseph Avram?

A Yes, that's right.

Q Dated...

A It's not dated.

Q Not dated. But you have reviewed Dr. Avram's report before testifying today, is that correct?

A That's correct.

Q And you have also--have you seen any deposition transcripts...

A No, I haven't.

Q ...of the testimony of Dr. Rosenfield or Dr. Baum?

A No, I haven't.

Q Have you come to know what testimony from Dr. Rosenfield or Dr. Baum has been in this case, from any source whatsoever, prior to testifying today?

A Partially, yes.

Q What do you know about their testimony? First of all, let me put it this way. How did you find out about what they testified to in this case?

A Dr. Irwin told me about it, their reports.

Q And we're referring to John Irwin, the attorney representing Mt. Sinai Hospital?

A That's correct.

Q So you know something about what's been testified to by Dr. Rosenfield and Dr. Baum so far in this case?

A That's correct.

Q What other information, particular to this case, do you have that we have not already discussed? Excluding your research into the journals now, of course.

A I can't think of any.

Q So you have seen the emergency room record, and now you have seen the full coroner's work-up in the case.

A That's right.

Q Did you ever see the well care visit record at Mt. Sinai's Outpatient Pediatric Clinic, prior to this child's death?

A I don't believe I have ever--I don't think I have ever seen them. I saw them referred to in Dr. Avram's report.

Q But you have not seen those records yourself?

A No.

Q And obviously, you have seen the emergency room record. I'm making that a deposition exhibit here today. And you have seen Dr. Avram. Okay, thank you, Doctor. Briefly summarize for me what your understanding is

about what Dr. Rosenfield testified to in this case. What is the understanding with which you are armed today, about the substance of Dr. Rosenfield's testimony?

A My understanding is, he was the emergency room doctor that saw the patient, is that correct?

Q I just want to know what your understanding is. The entries.

A If I remember the names, okay.

Q Yes.

A My understanding is that he recalled the case vividly, and remembered what the child looked like in the emergency room, and at the time that the child was discharged from the emergency room, the child apparently was drinking, and drinking well, and very responsive, and consolable, and was afebrile.

Q Without fever?

A That's right.

Q What is your understanding about the testimony that Dr. Baum has already offered in this case? Dr. Baum being the house staff physician in the emergency room that night, Dr. Rosenfield being the resident.

BY MR. IRWIN: Objection. He was not the house staff physician.

BY MR. GOLDENSE: What was Baum?

BY MR. IRWIN: He was the attending, not house staff.

BY MR. GOLDENSE: Sorry.

A I'm not specifically clear on who testified what. I guess what I related to you was what the general impressions, at least my understanding of the general impressions of the doctors that were there in the emergency room felt about the child's condition. So for me to specify whether Baum or Rosenfeld said one thing or another, I'm not certain at this time.

Q So that the record is clear, what you've just told me about the child being discharged afebrile, and having drunk some water, and the other things that you testified to, that was, as it were, a meld of both your understanding of the nature of the testimony of both physicians?

A That's correct.

Q Doctor, why don't we start by having you refer to some of the items in this file of yours? For the record, you are being paid for the time that you take to work on this case by Mr. Irwin, representing Mt. Sinai Hospital?

A Not me directly, but the Cleveland Clinic gets paid. I don't get anything extra from this. I wish I did, but no, I don't.

Q You wrote a letter to John Irwin on June 17th, 1988, enclosing what appears to me to be six articles, is that right, and I'm handing you the letter right here, so you can look.

A That's good.

Q So that I can reconstruct the substance of this June 17th letter, are these the six articles with numbers one, two, three, four, five, and six in the upper righthand corners?

A That's correct.

BY DR. MACKNIN: Mr. Irwin, with your permission, what I would like to do, at the end of the deposition, I would like to just write down the titles of these articles. I don't need to take them out of this file. Just I know which ones are referred to.

BY DR. IRWIN: I have copies of those, Mr. Goldense. I would be happy to supply you with a copy of my copies, if you would like.

BY MR. GOLDENSE: That would be great. And may I have a photocopy of this June 17th letter to you?

BY DR. IRWIN: Yes.

BY MR. GOLDENSE: This is a photocopy. We can make a copy of that letter. Is that okay?

BY DR. IRWIN: Sure.

Q Now referring now to your June 29th, 1987 letter to John Irwin, at Reminger and Reminger, this is a three page letter, with a reference list at the back, a two and a half page letter, with a reference list at the back, consisting of your opinion, and I would like to spend some time going over this letter with you. So why don't you keep that right in front of you?

A Okay, fine.

Q In the second paragraph, starting with the initial history, you comment that the chart does not provide a clear etiology of the patient's problems, then other than symptoms of crying, a dry cough, poor appetite, vomitting after eating, and feeling warm, there are no other positive findings outlined in the history. Taking that particular statement, there are no other positive findings outlined in the history. Can you explain for me exactly what other kinds of positive findings one might have seen? I don't quite understand what the nature of your comment is.

A We were discussing sepsis earlier, and the elements of the history that I would look for, in trying to

determine if a child was septic or not, those were the kind of other kinds positive findings I would refer to.

Q Tell me what those are.

A It would be nice to know how irritable the child was. Was the child crying inconsolably, or was the child consolable, did the child have periods of alertness and smiling, which wouldn't be a positive. That would be a pertinent negative. You just want the positives and negatives, or just the other positive findings?

Q That's why the use of the word positive there was a little misleading to me. Because a negative finding is important, isn't it?

A Yes, a negative finding is important.

Q And positive findings are very important, like the child is consolable.

A That's right, or the child does or does not have nuchal rigidity, that the mother might have noticed. There are other things that just weren't mentioned, diarrhea.

Q That's what I want you to discuss for me. Tell me about the things that aren't mentioned positively or negatively, that would have been helpful for you in reviewing the history taken here. You just said nuchal rigidity, crying, inconsolability.

A That's right.

Q Diarrhea, what else?

A Other general things that I had, consolability, where the child was laughing, playing, alert, responsive to the environment, the general things that there could have been a helpful positive or negative. Other things. Family members usually don't notice a bulging fontanel, but sometimes you can ask them if there is a fullness of the head, skin rash, presence or absence of skin rash, joint, if there are any joint involvements, joint infections, pulling at the ears, or evidence of ear pain.

Q Or lack of it.

A That's right.

Q And in all of these, the presence or absence of all of these signs, you would have appreciated having in the history here, is that correct?

A It would have been ideal.

Q I understand. We don't live in a perfect world. I understand that.

A Should I--I don't know what you...

Q Are there other signs that you would have ideally looked for?

A If there is any respiratory distress. There is mention of a cough, is the child having trouble breathing. There is vomitting, the first state of

hydration, if the mucous membranes are moist, the lining of the mouth, if it was moist, if there were tears, if there is adequate urine output, and the usual number of wet diapers. And then exposures to other--if everybody in the family had a cold, it would be reassuring. Obviously not one hundred percent (100%) reassuring, but if everybody in the family had a cold, or if the child was in day care, and there were other sick children in day care. Were there any exposures to ill children. And then, as I said, some general idea of the past medical history, where the child is a well or healthy child.

Q I'm not misleading you. It is absolutely true, and you know this from Dr. Abramss report, this child was born at Mr. Sinai Hospital, and had had all of her well care visits at the pediatric outpatient clinic at Mt. Sinai Hospital, and I believe that that's reflected on the emergency room record here.

BY DR. IRWIN: The top right corner.

BY MR. GOLDENSE: Page 1?

BY DR. IRWIN: Yes, private physician employed at Mt. Sinai.

Q MSMC, okay. So then, having read Dr. Abramss' report, you are in agreement with some of his statements anyway, insofar as paragraph four on page 1, that you have in your hand, says that the physicians report was

brief and deficient in several aspects.

BY DR. IRWIN: Objection.

Q Do you agree from the testimony you have just given me, that the report on the emergency room record, specifically Deposition Exhibit 1, is brief and deficient in several aspects?

A I'm not sure if it has any bearing on the outcome of the case, but I would agree that it would be...

Q That's going to be for someone else to decide in this case, Doctor. Neither you, nor John Irwin, nor David Goldense is going to decide what the relevance of all these things are. My question to you is, whether or not you agree with the statement from Dr. Abrams, that the physician's report...

A I agree that it would have been nice to have these other aspects that I outlined.

BY DR. IRWIN: Objection and move to strike, as not responsive to the question.

Q Do you agree that the physician's report, as contained in Deposition Exhibit 1, is brief and deficient in several aspects, quote, unquote?

A Yes, I would.

Q Referring to Deposition Exhibit 1 and Deposition Exhibit 3, the triage station, it appears to me that

there is a contradiction with respect to the child's appetite. Have you had a chance to review Deposition Exhibit 1 and Deposition Exhibit 3?

A I have. You'll have to point out to me the discrepancy, though.

Q In Deposition Exhibit 1, which is the face sheet, if you will, there is a report. It is reported on the third line under physical findings, an arrow pointing up, appetite, though emisis following meals. Do you see that, right here?

A Yes, I see that.

Q Now when you refer to the triage notes in the emergency department, under chief complaint on Deposition Exhibit 3, if you just look in the upper righthand corner, you see all the numbers.

A Yes.

Q You see, chief complaint, fever, throwing up, not eaten since yesterday. Do you agree that there is apparently a contradiction as to the history of the chlid's appetite, between Deposition Exhibit 1 and Deposition Exhibit 3?

BY DR. IRWIN: Objection.

Q Do you agree that they are in conflict, Doctor?

A It depends on how you ask a question to a mom. A lot of parents, if you ask them if your child has eaten,

will not talk about liquids at all. They don't consider it...

Q My only question is whether or not you agree that the report on Deposition Exhibit 1, and what was reported at the triage station are in conflict. I'll give you a chance to give me your interpretation in a second.

A Okay.

Q Do you agree that they are on conflict?

A For you and me, they would...

BY DR. IRWIN: Objection.

Q Yes, you may answer.

A As I say, for you and me, it may look like it's in conflict. When you take a history from parents, oftentimes...

Q They have a reason for the apparent...

A Yes.

BY DR. IRWIN: May he finish his answer, please?

BY MR. GOLDENSE: I'm trying to--all I'm trying to do, John, is make sure that the answers are responsive. I was cutting him off, so he could now give his interpretation.

BY DR. IRWIN: I would appreciate it if

you would allow him to finish his sentence before you cut him off.

Q Can you explain to me what you and I, I think have agreed, is an apparent conflict in the history?

A I'm not sure I can explain it to you. I can tell you what oftentimes happens when you take a history from parents. You ask them if your child is eating, and they'll say, no, they haven't eaten anything. And then you ask them if they are drinking, and they say, oh, yes, they are drinking a lot, because a lot of times, parents don't equate eating with drinking. I'm not sure that's what happened in this case obviously, but in trying to explain what might have happened. It's not all uncommon, particularly in the setting in an emergency room setting, as I say, when you ask a parent about eating, that they don't even include what a baby has been drinking as something that they have eaten. They consider eating solids, and they consider drinking something separate. And again, obviously, I have no idea whether that's what was going on in this case, but just from my experience, I know that you have to word your questions carefully, or else you'll get answers which may be misleading in this kind of setting.

Q Fortunately we have a note in triage, right below, not eaten since yesterday. The next line under pertinent

history, related to present illness is, drank a little today.

A Yes.

Q Looking at those two statements, not eaten since yesterday, and drank a little today, that would be consistent, wouldn't it, with a decreased appetite?

BY DR. IRWIN: Objection.

A It would be. I think it would be consistent with a decreased appetite. Again, it depends on whether the--because some parents, if the kids vomit after--it's amazing how often, if the kids vomit after they eat, they don't count what they drank as even drinking. They figure if you get a half gallon down, that you vomit after every feeding, if you ask if they have had anything to drink all day, they say no, they have had nothing in, but you really don't know how much they have absorbed. But I would agree, for you and me, it would look like there is a conflict. Now again, I don't know how to interpret it in this particular case.

BY DR. IRWIN: Move to strike.

Q Don't worry. That's just lawyer stuff.

BY DR. IRWIN: I don't mean to interrupt your train of thought.

BY DR. MACKNIN: No, that's all right. I don't care.

BY DR. IRWIN: It is just lawyer talk.

Q Doctor, in your report, you make the statement that the history is nonspecific and is very common in young children with high fever.

A That's correct.

Q And that this history does not provide a clear etiology of the patient's problems. That's correct, isn't it? That's what you said.

A That's correct.

Q With this history, and using your list of--using your definition of differential diagnosis, what diseases, illnesses, or disorders would have made your laundry list, based on that history, with respect to the differential diagnosis in this case?

BY DR. IRWIN: Objection.

Q From the perspective of a man with your experience in ambulatory pediatric care, trying to ignore the fact that you know what the outcome of the case is.

BY DR. IRWIN: Objection.

A I can answer?

Q Sure.

A My major, in forming a differential diagnosis, I think you list in your mind, you list those things that you feel is most likely, and then other possibilities, but less likely possibilities. From looking at this, I

would think that the major differential that I would have would be some sort of viral illness, nonspecific viral illness, causing GI, gastro-intestinal and respiratory symptoms. And that would be, I think, number one.

Q Number two? I'm sorry. Didn't you--I'm interrupting you again. I apologize.

A That's all right.

Q Didn't you say, when you reached the differential diagnosis, it's also subsequent to the physical examination?

A That's right.

Q Maybe we ought to go into...

BY DR. IRWIN: And subsequent to the history, which is the reason I objected, but I'm going to allow you to inquire.

BY MR. GOLDENSE: Thanks.

Q Let's go through the history and physical examination, and then come back to thhis question about what would be on our laundry list for the differential diagnosis.

BY DR. IRWIN: And the lab tests. He said that was part of the equation before he arrived at a differential diagnosis.

BY MR. GOLDENSE: Did he say that?

BY DR. IRWIN: Yes, he did.

Q Did you say that?

A I did.

Q When you reviewed the physical examination, it again had no specific clues as to the etiology of the patient's illness, from your reading of the physical examination, correct?

A That's correct.

Q And when you refer to physical examination, I take it that you refer specifically to the information contained on Deposition Exhibit 1, showing the physical examination?

A That's right.

Q Some urinalysis studies that were done.

A Plus lab.

Q Some lab work that was done, and also in this whole process of leading toward my differential diagnosis laundry list, the emergent--the x-ray studies that were done.

A That's right.

Q What about the physical examination was significant to you in reviewing it?

A The physical examination, as it was outlined, the temperature of a hundred and five four (105.4) was significant, and as it was outlined, the baby was

crying. The pulse was up, and the respiratory rate was also higher than usual, but with that degree of fever, that's an expected finding. The remainder of the examination, as described, was really unremarkable.

Q You said that the fever of one hundred and five point four (105.4) degrees was significant. Can you give me an idea of how--I'm trying to get you--I'm going to try and get you to give me a scale notion of a one to ten (10) scale, how is one hundred and five point four (105.4) degrees, in your experience of treating children for as many years as you have. I mean is that towards the upper end of high. I mean is she a lot more higher than that, or where would you put it on a scale of one to ten (10), for instance, or in any way you feel comfortable describing it.

A That's a high fever, and it's certainly higher than the average child that comes into the emergency room. If I could put it on a scale, temperatures don't go much above one hundred and seven (107). Your thermostat is set at one hundred and seven (107), one hundred and eight (108), and unless something is wrong with your thermostat in your head, it would be unusual a temperature to go above one hundred and seven (107) or one hundred and eight (108).

Q So we're talking about a high fever, well above

average, in your words.

A Definitely, yes.

Q In your report, in the third paragraph on the first page, you indicated that after treatment with eighty (80) milligrams of Tylenol, the fever returned to normal, one hundred (100) degrees rectally.

A Yes.

Q Would you agree, from a now second review, that a minimum of one hundred and sixty (160) milligrams of Tylenol were dispensed to this child, prior to the temperature returning to one hundred (100) degrees Farenheit rectally? I refer you, Doctor, again this is not a hidden ball game, to Deposition Exhibit 1 at the bottom, and Deposition Exhibit...

A It's unclear to me whether they gave it at both those times, or whether it was ordered at one time and given at another time. I just can't tell from this. It doesn't look like it's signed off. Except under med given time.

Q Assume for purposes of my question, that prior testimony in the case from the attending resident--that's not a contradiction. From the resident was that a minimum of one hundred and sixty (160) milligrams--the nurse and the resident.

A Fine. That doesn't make any difference.

Q Have testified that a minimum of one hundred and sixty (160) milligrams have been given in this case.

A That's fine.

Q My question is, now that you know, assume for purposes that one hundred and sixty (160) milligrams were administered.

A Yes.

Q Would that routinely, even with a bacteremia, cause the hundred and five point four (105.4) degree temperature to come down to a normal range of one hundred (100)?

A Recently there has been literature that shows that the response to Tylenol is unrelated to the severity of the illness. So whether it's a virus or a bacteria, it may or may not have come down with Tylenol. So I guess that answers your question. It doesn't--the fact that the temperature came down doesn't speak to the severity of the illness.

BY DR. IRWIN: Objection. Move to strike.

Q You said this was recent literature?

A That's right.

Q How recent? Before November 10th of 1986, or after?

A I think it's more recent than this case. I could

pull out the article for you, but somebody did a review of response in temperatures to antipiretics, and I'm pretty sure it was after this case. Because it's a common belief by many people that if the temperature comes down, it means it's a less severe illness, and if it doesn't come down, that means it's a more severe illness. And I'm pretty sure that it was after this time, but I would have to pull that article. I'm pretty sure it was after the time of this case.

Q In fairness to the defendant in this case, what I need to know is what the common understanding was among pediatricians with ambulatory focus, in November of 1986, with respect to administering Tylenol, and seeing a five and a half degree--almost five and a half degree drop in temperature. Was it the common understanding in November of 1986 that that kind of response by a patient to Tylenol meant that there was not a severe illness underway in the patient?

A I think a lot of people would be reassured by that, but as I tried to point out, I'm not sure there is any data to make that assurance reasonable. I just don't know if there was any data prior.

Q When you say people, you mean physicians?

A Physicians and the lay public.

Q Your review of the chart further causes you to

write in your report, again on that first page, that the baby was described as taking two bottles of D5W, a dextrose solution, I gather?

A Yes, sugar water.

Q And took those well. What is the common understanding in your field, as to taking bottles of dextrose water well?

A What implications does that have?

Q Yes.

A I think that's reassuring. That's another bit of the puzzle, that it's reassuring that the child would feed well, because that's one more possible indication the child is not severely ill.

Q When was say taking them well, all that means to you is that she, the baby child, drank the water, and what? Didn't vomit it back up?

A Again, you can read into it as much or as little as you want. You can say that the baby wasn't balking at the bottle, and just took it easily and comfortably, but I can't tell from taking well. It's how you want to interpret those words.

Q And as we know, normal chest x-ray and urinalysis were--chest x-ray and urinalysis were normal for this child.

A Which I think is important as far as your line of

questioning, about how the child was eating, because the urine specific gravity was ten/ten (10/10), and that's what they call an isothenuic urine, which in English means that the baby wasn't concentrating the urine at all, so almost certainly was well hydrated at the time of presentation to the emergency room. Because that's a very sensitive indicator of the child's state of hydration, because if you are dehydrated, you concentrate your urine, so you're preserving fluids in your body, and the baby's urine wasn't the least bit concentrated.

Q Concentrated with acid?

A No, concentrated by not having too much water. By concentrated, I mean there is not much water.

Q I see. You're talking about the specific gravity measurement, aren't you?

A That's right. And there wasn't a lack of water in the urine. It wasn't as if the child was trying to hold on, hold on to body--hold on to water.

Q And if there had been a severe...

A If there had been a severe dehydration, there wouldn't be much water in the urine. You just get rid of the waste, and not put out any water with the waste. And this specific gravity indicates that the child was putting out water and waste, as opposed to just waste in

the urine.

Q What would you associate the dehydration that--I mean...

A Inadequate fluid intake.

Q You've never seen the original x-ray films taken at Mt. Sinai, have you?

A No, I haven't.

Q So when the chest x-ray was read as normal, what does that rule out to a physician, examining and trying to treat and manage this child?

A It helps rule out pneumonia. Sometimes even with a clear chest x-ray, you can still have pneumonia.

Q And the urinalysis, specific gravity and PH findings rule out what?

A It helped rule out severe dehydration, but you ought to be able to tell that, just by looking at the child, and moist mucous membranes, and tears, and things like that, and then trying to see if--it helps rule out urine infection, but it's not one hundred percent.

Q It helps rule out a urinary tract infection in either the bladder, or the kidneys, or the urethra, or ureter, or anything like that, right?

A That's right.

Q It certainly doesn't have anything--a negative urinalysis doesn't have anything to do with diagnosing

of finding the presence of a blood borne infection, does it?

A You can have a blood borne infection associated with the urinary tract infection, but only in that sense does it help you rule out the blood borne infection. So in answer, it really doesn't rule out a blood borne infection. I would agree with that.

Q A chronic discharge, the instructions which we have all had a chance to see, were to encourage fluids, and to take a half teaspoon of Tylenol every four hours, and to follow up in the pediatric clinic the next morning?

A That's right.

Q The pediatric clinic at Mt. Sinai Medical Center. Anything about those discharge instructions that you would have added to, given your review of this emergency room record?

A In the best of all possible--her house is at.

Q No, in providing standard of care that this child was entitled to under her own circumstances. I mean I acknowledge, we're not in a perfect world. I'm just asking if in providing that care to which emergency room physicians were required to provide for this child, under these circumstances, were those three instructions given at 11:00 at night, complete in your estimate in review of this case?

A I think as far as providing the standard of care, it was very good that they had arranged a follow-up the next morning.

Q And the other two intervening instructions were to encourage fluids and to administer a half teaspoon of Tylenol. Is there anything else you would have done, discharging this patient that night?

A I don't know if I would have written it in the chart, but I would have said, if the child looked sicker through the evening, feel free to call. Again, I don't know if I would have written it in the chart.

Q But you would have said it to the parents?

A Yes, I would have.

Q Help me understand why an instruction like that would be something that you're testifying to now you would routinely say, and wouldn't necessarily write down on the discharge instructions.

A Because I don't write down everything, but every time I see a sick child, I like to let the parents know that they should feel free to give me a call if they're not doing well. That's just part of what I do.

Q Is that the standard that you have always practiced, whether you're in an emergency room setting, or in a private practice setting?

A I tell them to call the emergency room. If I'm in

an emergency room setting, I generally wouldn't give them my home phone number, for instance, but I would let them know that they should feel free to give a call to somebody if things aren't going well.

Q The second paragraph on the second page of your report, indicates that the child was found dead in her crib at 7:30 the next morning. And actually, that isn't--that's the wrong date, isn't it, 10-11-86. Simply, it's 11-11-86, isn't it?

A If you say so, sir.

Q It's a typographical error.

A Okay.

Q My question is whether or not you have any other information at your disposal today upon which some of your opinions are based, about any other facts subsequent to the child's discharge from the hospital, 11:00 at night, and her death the next morning at 7:30 a.m.

A You mean do I know anything more about it?

Q Do you have any more information in your brain about this case?

A I didn't when I wrote my opinion, but Dr. Owen told me that the mom was up this morning, and told me that the mom was up with the child. I guess the last time was at 1:30 in the morning, and then she found the child

cold in bed at 6:00 a.m.

Q And do you have any other facts at your disposal today, upon which some of your opinions might be based, concerning the period of time from 11:00 at night to 7:30 the next morning?

A Other than my review of the literature, no.

Q Taking your third paragraph on page 2, addressing first of all the question of whether this child could have survived, you cite a Nigerian study. It's your footnote number 1 in your references. Is it fair for me to understand that from this Nigerian study, that if a child presents with meningocrosemia, they have a ninety-four percent (94%) chance of surviving, absent coma or shock at the time of presenting, for medical care?

A In this study, that was the result, yes.

Q So I guess my simple question is, had this child been--had Orlean Grant been diagnosed as having meningocrosemia, before 11:00 at night, on November 10th, 1986, do you have an opinion, based upon reasonable--based upon a reasonable degree of medical certainty, as to whether or not she wold have survived, based upon your experience, training, and review of the literature?

BY DR. IRWIN: Objection.

Q You may answer.

A It's very difficult to tell, because it seems, there are several populations of kids with meningococcemia, and it seems like there is one group that presents, without meningitis, who presents with a very fulmanent course, and whether those kids can be helped, and at what point they can be helped is difficult to determine from reviewing the literature. It might be that these ninety-four percent (94%) of children who live, presenting without coma or shock, may have had a different illness, and the spectrum of meningococcemia is incredably broad. Some people walk around with meningococcemia for days, and do just fine. They come in and get some antibiotics, and are well. There is an entity called chronic meningococcemia, where you can have it for days, and even weeks. And then there seems--the other extreme, there seems to be people that present with any overwhelming course, and die almost instantly, regardless of what you do. So I'm not sure that--I don't know the answer to that question. I don't know if there is an overwhelming medical likelihood, in a child who is eventually going to have an overwhelming course, if you treat them at a given point in their illness, that they are more likely to survive. Certainly if you had started treating days before, I think you would have a very good chance. But if you...

Q Let me see if I can focus this question a little more carefully for you. We know that Orlean Grant, this seven month old minor child had no coma and no shock when she presented at 8:00 at night at Mt. Sinai Medical Center, is that correct?

A That's correct.

Q Is there anything in your review of this case, from any of the information you have, that indicates that she was one of these chronic--that she was a patient with the kind of chronic meningococcemia that you talked about earlier?

A No, I think she had an acute fulminating course. It's just a matter of whether that course could have been interrupted by earlier intervention, and that's the question I don't know the answer to.

Q Is it significant in making that statement that you don't know the answer, that this child responded to Tylenol from one hundred and five point four (105.4) degrees, and one hundred and sixty (160) milligrams later of Tylenol, went down to one hundred (100) degrees. Is that a relevant probative fact in determining whether or not she could have survived, given prompt therapy for a diagnosis of meningococcemia.

A Given what literature is available, I don't think that that really has much relevance, given the fact

that, as I've said, there has been this recent information, that if you give Tylenol, and the fever responds, it doesn't have any correlation with the severity of the illness.

Q Is that fact that the chest x-ray was negative, or that the urinalysis was negative for specific gravity and PH content, or the fact that she took the dextrose solution well, are any of those facts relevant to determining whether or not she would have survived, given prompt therapy for a diagnosis of meningococcemia.

A I think generally speaking a child, the urinalysis and chest x-ray probably don't help you much. I think the fact that she took things well and acted well is generally an indication that the child doesn't have a serious infection. But obviously in this case, that was misleading, at least from what is known to me. I think that the fact that she looked so well initially is suggestive that she perhaps might have not--it suggested that she was not overwhelmingly sick when she came in. I think that's true. It's reassuring that she--it would be reassuring to me that she didn't have a serious illness at all at the time she came in, which was obviously falsely reassuring.

Q Are you clear that she had meningococcemia in the emergency room that night, based on the fact she died

the next morning, or the coroner's report, or anything else?

A I'm not even clear if she had meningococcemia after reading the coroner's report, because I didn't see any cultures in the coroner's report. All I saw was evidence of Waterhouse Friderichsen syndrome, which is suggestive of, but by no means diagnostic of meningococcemia. There are other--basically any other infection can cause the exact same picture.

Q You're not even sure this is a meningococcal related death, is that your testimony?

A From what I--the information that was available to me is very suggestive of a meningococally related death. But it's not diagnostic of that.

Q Remember what lawyers have to present in court, reasonable medical certainty, and I don't know that that's always equal to a physician's use of the term diagnostic.

A I was just surprised they didn't have--I don't know if I just didn't get the culture reports, or they didn't do cultures, but what I received had no blood cultures. There were no cultures from anywhere that grew meningococcus, and this could have been another bacteria that caused this. I don't know if I can give you numbers. There is probably a twenty percent (20%) chance

it was Haemophilus influenza type B, for instance.

Q Is that the H flu, Haemophilus?

A That's right. And there is a chance it was--and again, that number is based on one study that I have read. Overwhelming sepsis with Waterhouse Fridericksen syndrome. Most of the time it is meningococcus.

Q But not necessarily so?

A But not necessarily so.

Q It could be the Haemophilus flu?

A It could be any bacteria, and some viral illnesses. Anything that makes you overwhelmingly sick. The reason your adrenals get shocky is they have a--if you're in shock, your adrenals have a relatively precarious blood supply, compared to other parts of your body, and so if you're not profusing--if you're not getting blood to all the parts of your body, because you're in shock, your adrenals can be damaged by a variety of organisms. That's why...

A So it could have been the Haemophilus flu, and you think that there is a twenty percent (10%) chance that absent blood cultures from the coroner to the contrary, there is a twenty percent (20%) chance it could be Haemophilus flu?

A Or thereabouts. I mean obviously, I don't know the exact number. I think it's a substantial minority of the

cases.

Q What other bacteria could have been present in this child to cause the septicemia?

A You could name any one. I mean pneumonococcus is probably the third most likely possibility. I think if you go much beyond those three, you're stretching it, though, especially the end.

Q So the one most likely is?

A Is meningococcus.

Q Is a meningococcus?

A And I think Haemophilus influenze type B is probably second-most likely.

Q Thirdly would be?

A Pneumoncoccus, but again, the relevant proportions of those, I can't be sure of. I thought it was standard--I shouldn't--we're not asking about the coroner, but I thought it was standard procedure to get blood cultures in a child you thought died of sepsis, but I didn't--I'm not an expert in pathology. I didn't see gram stains done on any of the organs either. You can look for the bacteria with special stains in the various organ systems, and that wasn't done either, as best I can tell. There were a lot of things they could have done to try and determine whether this was meningococcus. I don't know if you wanted all the things

they could have done. Again, they weren't done, so I'm not sure it's important.

Q Let's go back to the survivability issue. Thank you very much, by the way.

BY MR. GOLDENSE: Can I amend my pleadings to bring the county into this case?

BY DR. IRWIN: Feel free.

BY MR. GOLDENSE: An interesting issue.

Q You conclude, at the end of that paragraph, it is reasonable to assume an early admission, with prompt antibiotic treatment would have possibly been helpful.

A I'm sure it could have possibly been helpful.

Q And you can offer no more opinion than a possibility. Your opinion cannot reach the level of a probability with respect to this child's survival, with prompt antibiotic treatment, is that correct?

A I couldn't go to probability. I'm just not sure.

Q And then you begin to offer some opinions about your notion, your opinions about standard medical practice, and this child. So taking those opinions in order, it is my understanding that it is your opinion that antibiotic treatment for this child was not indicated, absent one of two factors. One, localizing the source of infection, or two, positive lab studies,

correct?

A Or possibly severe toxicity.

Q I'm sorry, of course. And toxicity is again, this observation...

A Subjective.

Q ...judgment made by the examining physician?

A That's correct.

Q So antibiotic treatment, which may or may not have even saved the child, according to your testimony, would have been indicated under one of three sets of circumstances, is that correct? The toxicity level observed by the clinician, one.

A That's right.

Q And two, some positive laboratory tests, or...

A That's right.

Q Or three--those are the two things.

A Those are the main things.

BY DR. IRWIN: Keep going. Define bacterial sources.

BY MR. GOLDENSE: You're right.

A With laboratory tests.

Q Which again would be part of the analysis of your examination, if you saw the throat, or you saw something...

A Otitis media, or something like that.

Q So if in the process of conducting an examination, you can focalize visually the source of infection to account for the fever, or two, you do a lab study that helps you define where the infection is located?

A That's right.

Q Or three, you make this judgment from your clinical contact with the child. Those are three circumstances that would generally lead you to instituting antibiotic therapy, is that right?

A That's correct.

Q We know that in this case, the doctors have offered their evidence as to what this child appeared to be, and it is your understanding from the testimony of the physicians and a review of the records, that the child appeared well, certainly by the time of her discharge?

A That's my understanding.

Q And in that you're relying on the records, and you're relying on what your understanding of prior testimony in the case is?

A That's correct.

Q So it's clear that that's what you relied on?

A Yes.

Q Now the only lab studies that were done in this case were chest x-ray and urinalysis?

A That's correct.

Q Would you, examining this child...

BY DR. IRWIN: Let me just interrupt and clarify. There was a hematocrit, if I'm correct.

A Okay. That was October 17th.

BY MR. GOLDENSE: That was a month before, John.

BY DR. IRWIN: I stand corrected.

Q For the record, the only lab studies that were done on this child, on the evening of November 10th, 1986, were urinalysis and chest x-ray, correct?

A That's correct.

Q Would you have ordered a blood test for this child, a CBC?

BY DR. IRWIN: Objection, go ahead.

Q At the point when decisions about what studies were going to be done, would you have ordered one?

A Yes.

Q Why?

A Because it may give me further indication as to the possible severity of the illness that the child had, and it may help me with management of the child.

Q It's a standard of care order blood test on this history and this exam, isn't it?

BY DR. IRWIN: Objection.

A Standard of care where? In an academic center...

Q No, at an urban hospital, with a child who you have never had any contact with before. I mean we're talking about a resident who has never seen this child before. This isn't a private pediatric office. I'm talking about an urban hospital. It's the standard of care in this setting, at Mt. Sinai, to order a blood test for this child, isn't it?

BY DR. IRWIN: Objection.

A I think in an urban academic center, it would be, yes.

Q Why are you using the word academic as a qualifier?

A Because what "town and gown" does, what they do in a university setting, versus what is done in the community in a community hospital is oftentimes dramatically different. I'm not saying it's right or wrong. It's just the way medicine is practiced. In a community setting, people are much less likely to get any laboratory evaluation on a febrile child, and again I'm not saying that's the right thing to do. And in a university or an academic center, the likelihood is much greater that you would go ahead and get blood work.

Q And is Mt. Sinai qualified as an academic center, and this qualification that you have placed upon the standard of care?

A It's kind of in between. It's not a full-fledged academic center, but it's not your run of the mill community hospital. I think it's someplace in between there.

Q The standard--I want you to apply the standard of care, as you understand it, through your training and experience, to the emergency room staff at Mt. Sinai Hospital, and tell me whether or not a blood test being ordered for this child was within that standard of care.

A By standard--you see, I'm not sure I understand standard of care in this context. If you took one hundred (100) emergency room visits to hospital similar to Mt. Sinai, do I think that most people would have gotten blood tests?

Q Yes.

Q I think probably the majority would have, but I think a substantial minority would not have. And I think that if you went to a community hospital, it would be probably a community out in the suburbs, there is a good chance that perhaps even the majority would not have gotten it, and the minority would have. If you go to the university setting, I would hope that just about everybody would get a blood test. So there is a whole different way of approaching it. It has been fairly well documented in the literature, as far as who does what in

a given situation.

Q But you have testified that you would have ordered a blood test to help you reach a diagnosis in this case?

A Yes. In an emergency room setting, with a child I haven't seen before with one hundred and five point four (105.4) temperature, and seven months, I would have ordered a blood test.

Q Did I give you a copy of the article that is now cited several times in your report, "The Factors in the Prognosis of Meningococcal Infection," authored by Dr. Stiehm, S-T-I-E-H-M?

A Yes, you did.

Q And Damrosch, D-A-M-R-O-S-C-H. You have cited this article now, on the second page of your report, first for the proposition that even had tests, in this case blood tests, been performed in this child, the results most likely would have been unhelpful, and in fact falsely reassuring, and you cite this research?

A Yes, and I have some more articles to substantiate that.

Q Good. Let's just stay with this, because you have that in front of you now. Where in this article do you find authority for the proposition that the results would have been unhelpful, and in fact, the results most

likely would have been unhelpful, and in fact, falsely reassuring?

A I'm going to have to go through it. I haven't looked at this for awhile.

Q Let me help you. Turn to page 460, Table 6.

A Thank you.

Q I'm guessing, Doctor, but does Table 6 contain some of the data upon which you relied to reach that conclusion about false reassurance and uphelpfulness?

A That's correct.

Q Do you agree that this data was collected from 1947 to 1962? Look at the first page, first line, in the synopsis up at the top.

A Yes, I do.

Q Does the fact that the data was a minimum of thirty-nine (39) years old--a minimum of twenty-four (24) years old, and a maximum of thirty-nine (39) years old, and sthat this was a 1966 article change your view about the results of the blood tests for this child in 1986 at Mt. Sinai, had they been taken?

A I don't think it makes much difference in this case.

Q The changes in...

A Normal blood counts really have not been significant. That's an evolutionary thing. I'm sure they

have changed over thirty (30) years.

Q And the accuracy of the testing hasn't changed over the years?

A No.

Q So there has been nothing significant changing to make this data outdated?

A I'm not familiar with how they did white blood cell counts, but it's not a very complicated test. I assume they did it very accurately thirty (30) years ago.

Q Now you said you had some other research that would tend to support your conclusion that even had these tests--and by these tests, a battery of blood tests, that they would have been unhelpful and falsely reassuring. Do you have some other research at your disposal now upon which you base that opinion?

BY DR. IRWIN: I object to the form of the question. Mr. Goldense, you stated that a battery of blood tests, and I'm not sure that you have adequately defined what tests you are talking about.

BY MR. GOLDENSE: I'm sorry. I'll get to that, John. I'll clear that up.

A We're using the six articles.

Q Yes.

A Because here, there is another article about unsuspected meningococcemia.

BY DR. IRWIN: Here being number 6.

BY DR. MACKNIN: Number 6.

A That was the article Dr. Abram referred to in his expert testimony. And they also had a number of children with normal white blood cell counts in their study.

Q Is that the Sewski's piece?

A That's right, T.L. and Klein.

Q Have you done any other research, other than this article that you've just talked about, unsuspected meningococcemia, and the one that we have already talked about from Dr. Stiehm and Damrosch that supports your conclusion that a blood test, if performed, would have been falsely reassuring, and/or unhelpful?

A I'm trying to see if there are skin manifestations. I'm not sure. There is at least one more article. Here it is, "Skin Manifestations of Meningococcal Infection" by Warren H. Towles, James W. Bass, and all, and then there is another one from 19--here is one more article here that--here is "Prognostic Factors in Acute Meningococcemia," by Lewis. That's in Archives of Disease in Childhood, 1979, Volume 54, pages 44 to 48.

Q Is that also cited by the report from Dr. ...

A That's my reference number 1, and 1, 2, 3, 4, 5, 6,

prognostic factors article.

Q So it's your testimony, based upon...

A I'm not sure that is number one. I think in any event, this article here.

Q So here is my question, Dr. Macknin. Based upon these three articles, and the one that you cited in your original letter, this is this piece by Dr. Stiehm and Danrosch, it is your opinion, based upon a reasonable degree of medical certainty, that had a CBC been done the evening of November 10th, 1986, on this child, the results of this would have been unhelpful, or falsely reassured?

A There is a good chance that's true, yes.

Q Now remember our problem. We must have testimony on opinions based upon a reasonable degree of medical certainty. Now a good chance doesn't speak to me in language that I'm going to be able to use in court.

A In the majority of instances, that test would have been misleading, or falsely reassuring, yes.

Q In diagnosing whether, or helping to lead to a diagnosis, as to whether or not this child had meningococcemia, correct?

A That's right, or overwhelming alledged coccemia, that's right.

Q How about H flu? Haemophilus influenza that you

talked about earlier, as a possibility for the cause of this child's septicemia?

A It could have possibly--I don't know the exact numbers of H flu bacterium, as pneumonococcal bacterium, as far as the white count. But I think that it probably would have been more helpful in suspecting an infection with H flu, or pneunococcus.

Q Blood tests would have been more helpful in reaching a diagnosis of H flu or pneumonacoccus, is that right?

A It would have been more helpful in suspecting that it might be a bacteremia of those organisms, because it's a little bit more likely that your blood count will be high with infections with those organisms, than it would be with meningococcus.

Q So what you're saying about meningococcus is, meningocossus is some strange breed of bacteria, and that's layman's terms, strange breed of bacteria, that doesn't necessarily relate to an elevated white blood cell count in a patient.

A All infections are like that, but meningococcus has more of a tendency to be like that. It's possible you have a normal or low blood cell count with any bacteria, but it's probably more likely that would happen with a meningococcal infection, than for instance, a

Haemophilus influenza type B or pneumococcus, strep pneumonia.

Q If it's known that meningococcus can be associated with low white cell count, isn't that an important fact?

A If the white blood cell count was low, that would also have been helpful. If it was lower than average, or higher than average, it would be helpful in suspecting a possible bacterial infection. If it's normal, that's when it's not helpful, and unfortunately with meningococcus, the majority of cases in an meningococcal infection, as cited in the articles you looked at, had normal white blood cell counts.

Q It is your testimony that this research discloses that the majority of white blood cell counts in meningococcal infection cases are normal, with respect to the white blood cell count?

A I would have to go over the exact numbers again, but for instance, the table that you referred me to, in Stiehm's article, if I can find that now, if you look at this table here, 314.

Q Stiehm's article.

A But on page 460 of Stiehm's article, if you look at the patients who died, there were twelve (12) patients, total who died, and ten (10) of them had white cell

counts between five and fifteen thousand, which are numbers that you would normally be reassured by. So ten (10) out of those twelve (12) had normal white blood cell counts. One had a white blood cell count that wasn't recorded, and one was less than five thousand (5,000), so none of them were high. So it's ten (10) out of eleven (11) that had white blood counts who died, had normal white blood cell counts.

Q Then how does the poor physician ever diagnose meningococcemia?

A I agree with you.

Q How is it ever diagnosed?

A It's oftentimes in retrospect. It's a very difficult diagnosis to make prospectively. It's an incredibly difficult diagnosis to make prospectively, and it's one of the banes of our existence.

Q What was the ratio of death in the cases in the Stiehm and Danrosch piece, in their research? This again, not hidden ball trick. It's right at the top of the summary.

A Nineteen percent (19%) case fatality rate. As I say, I think there are several different manifestations of meningococcus, and I think what it again suggests is that there are a group of patients that are very difficult to treat.

Q Have you lost any of the five meningococcal patients you recall diagnosing in your experience?

A There was one I was associated with, I really wasn't the immediate doctor. The case that stands out most vividly is a case we had in case management conferences at Boston Children's. We talked about it, where a child came in looking--really looking very well, and had a high fever, and we were debating what we should do with the child, and the child started to have skin manifestations of a potentially serious infection. It turned out to be meningococcus, where there were petechiae, purple spots underneath his skin, in front of our eyes in the emergency room, and we tried to immediately institute therapy at that time, and the child was in our emergency room when these manifestations appeared, and the child died within a matter of an hour. We were doing everything we could. Everybody was there, and it just happened so fast that there was nothing that could be done.

Q Somewhere you have read in this research that the onset of petechiae is one of the real poor prognostic signs for...

A Especially a lot of purpura. If you have large blotches of extravasated blood, blood that gets out of the blood vessels, you have leaky blood vessels, which

is what petechiae and purpura mean.

Q And of course, if we haven't made it clear, there were no petechiae present in this child, either in the emergency room, according to the record that you have, or pursuant--would they have been found in the autopsy?

A Yes, it's something that shouldn't have gone away. That's what petechiae represent are kind of blood that leaks out of the blood vessels.

Q And that wasn't found in the autopsy here, was it?

A No, it wasn't. It would have been a helpful clue if it was present.

Q I'm not sure I got the answer to that. You said that meningococcal infection is one of the banes of your existence, and it's hard to diagnose, right?

A And it's oftentimes retrospective. I mean it's very difficult to make a prospective diagnosis of meningococcal infection.

Q So if lamp studies are falsely reassuring or unhelpful, for meningococcal infection, are you left with anything other than the trained eye of the clinician examining the child? In this case a child, to have reached the diagnosis of meningococcal infections?

A There are other labs, and there are lab studies that unfortunately generally aren't available immediately.

Q And that's the blood culture which takes twenty-four (24) hours.

A The blood culture, and there is also an antigen detection test that most places wouldn't have available on an emergency basis at night.

Q But you wouldn't reach the question of...

A You wouldn't send that off, because you wouldn't worry about it. You wouldn't think about it, so you wouldn't send it off.

Q Unless you had already figured out that this was probably a meningococcal infection?

A That's right, unless it was part of your differential.

Q And you would reach that process through the training of your eye in observing the child?

A That's right.

Q If we note that the CBC had been done.

A If all the lab tests happened to come back normal. As I said, if the lab, for instance, the white blood cell count was very low, that would be helpful. But as pointed out in the study you referred me back to, only one out of eleven was low, and the other ten (10) were essentially normal, between five (5,000) and fifteen thousand (15,000).

Q Are there any other factors that we haven't--let me

suggest a few and see if you think any of these factors might be relevant considerations in the analysis position charged with trying to reach the diagnosis. The race of the child. The fact that this was a black female, age seven months. Is that a relevant factor in any significant way, in the care and management of the child?

A I think males are a little bit more likely to have serious illnesses than females.

Q In the black population, I mean.

A In any, in black or white. So being a male is a relevant risk factor in getting seriously ill. It used to be throught that bacteremiums were an illness of the lower class, and that's why the University Hospitals were reporting it out, because they were doing all their studies in emergency room settings in inner cities, and subsequently they have done studies, looking at unsuspected bacteremia. Again, there aren't enough meningococcal cases that you can get a precise feel for meningococcus, but just bacteremias in general seem to be just as prevalent in the suburban population as they are in an inner city black population in kids, in kids who present with fevers. So until the last four or five years, people would have said that the fact that this child was an inner city black with a high fever would

have put the child at increased risk, but in fact, that's probably not the case. It's just that nobody ever bothered to look in the suburban populations. Because I said, in the private office, people don't do these tests, routinely looking for bacteria, or looking at white counts oftentimes.

Q Isn't that also kind of a socioeconomic factor, that a suburban population might be more likely to have a private pediatrician, rather than emergency room care?

A That's right. The standard of care in a private office is to probably get less labs than you would in an emergency room setting.

Q By virtue of the fact that there is an ongoing relationship between the physician and the patient, just what you personally have sought, right, in your own course?

A To a great extent, yes.

Q It's a lot easier to work if Mrs. Jones brings in Johnny, and you have seen him from age three weeks, to age five years, than it is to see one child one time, a "shot in the dark" if you will?

A That's right.

Q Do you have any information at your disposal today about the degree of pediatric experience and/or training

that the two physicians at Mt. Sinai had on the evening of November 10th, 1986, when they examined this child?

A No, I don't.

Q Assume for purposes my question, that evidence already in this case about their background indicates that neither one of them had a focus anywhere near like yours in the area of pediatrics. I'm sure that's unobjectionable. And I'm sure it's also unobjectionable to say that neither one of them had ever considered pediatrics as a career, prior to November 10th of 1986. Okay?

A Yes.

Q And assume that both of them had substantial emergency room experience. No. Assume that Dr. Baum, the attending, had three and a half years of solid emergency room experience as an attending, at Mt. Sinai, and that Dr. Rosenfeld was in the middle of his second year of a residency program. Would that level of training cause you to think that the standard of care might have called for a pediatric consultation that evening, based on the records that you have seen here?

A No.

Q What kind of facts would you look for, in this case, to cause a pediatric consultation to have been indicated for this child by the emergency room staff?

A As we discussed, I think that the clinical appearance of the child, if the child looked toxic, looked severely ill. Again, that's variously defined by making eye contact, social responsiveness, smile, playfulness, eating is all part of that. If that were compromised, I think it would have been helpful to have a pediatrician take a look at the child.

Q So then you rely on all of the clinical observations that you have been told concerning the child's playfulness and social response?

A If there were petechiae or meningismus, if there was a stiff neck. If there were those physical findings, but again, I'm relying that those were not present.

Q And you're also relying that the observations made about the child taking the dextrose solution well are in fact correct?

A That's correct.

Q Suppose testimony in this case were to the effect that one about--I'm sorry. Do you know how many ounces there were in these dextrose bottles, that sugar water that is...

A It depends on which bottle it is.

Q Four to six ounce bottle.

A Usually four to six.

Q Suppose the testimony in this case was that instead

of taking two bottles well, it took the child an hour and a half to two hours to drink one, four to six ounce bottle of dextrose? Would that be a significant fact to you?

BY DR. IRWIN: Objection.

Q Suppose that is the testimony in the case.

A That would be one more piece of the puzzle that would make me less assured that the child was, in fact well, or acting well, I mean if it took that long to take the bottle, that's obviously longer than an infant who is healthy would normally take to dispose of a four to six ounce bottle of sugar water.

Q A well-appearing infant would take how long to dispose of a four to six ounce bottle of sugar water?

A Not long. Ten (10) minutes.

Q My daughter, probably about three or four minutes. But the average child what? Mabye ten (10), fifteen (15), twenty (20) minutes at the outside?

A That's right. I don't know if you have ever tasted dextrose water. It's not sweet enough to be really be sweet.

Q What's the water that you give kids, and it's loaded up with the electrolytes?

A Pediolyte, or Lytrin.

Q Now does that taste like dextrose water? Is that...

A None of it tastes very good. It's a good thing the kids aren't real discriminating.

Q I have tried Pediolyte. How about an admission for this child for observation that night? Is there anything in this record that causes you to conclude that this child should have been admitted for observation the evening of November 10th, 1986?

A No.

Q What factors would you need to see in this record to determine that this child needed to be admitted that night?

A Again, go to history, looking for signs. Signs of toxicity, physical examinations, or signs that the child was significantly ill, and looking for the meningeal signs. If I saw petechiae, I would have admitted this child. If the child was inconsolable, and appeared sick to me, and I couldn't get them to respond to me, like I would expect a relatively nonsick seven month old to respond, I would have considered admitting the child, if I got laboratory studies back, such as if I got a very low white blood count back, I probably would have admitted the child. If I got a high white blood cell count back, it depends again how sick the child would have looked, whether or not I would have admitted the child. I probably might have expectantly put the child

on antibiotics if the white count was high, but I doubt that I would have admitted the child if I thought the child wasn't sick. I would have done that without any justification in the literature to do that. And I can explain that if you want.

Q Please, explain it to me.

A It's very debatable whether giving kids antibiotics expectantly on an outpatient basis does anything at all in preventing serious illness. There is no good documentation in the literature, and I cited some articles in my letters to Dr. Irwin, that nobody has ever proven it helps. But I think they can sense that you kind of use your own judgment, and decide if you want to give them. I think he has to know full well that there is no evidence that it definitely will prevent any serious illness. If the kids look better when they come back, they are less likely to have the bacteria, for instance, still in their blood, if you put them on oral antibiotics. But as far as preventing death or meningitis, there is no evidence at all that you do anything to prevent that with oral antibiotics.

Q So if you don't administer them orally, your only option is to do it intravenously. Is there a difference there. So if you don't administer them orally, your only option is to do it intravenously. Is there a difference

there? Is that what you're intimating?

A There might be. Again, nobody has done--those studies are in progress now, because there happens to be a new pereneral drug that you can administer one today that's just become available recently, something called Ceftriaxona. So those studies are underway. Wherein in kids you might suspect have an infection, but you decide you don't want to admit into the hospital, you can give them the same medication you would as if they were in the hospital, because it's a once a day medication. So you can give them an intramuscular injection, or an intravenous injection in the emergency room setting, and again those studies are underway, so it's unclear whether that's going to help at all or not. With pereneral administration, IM or IV, you get betters level of antibiotics.

Q What's the name of the drug?

A It's Ceftriaxona.

Q Spell that for me, please.

A C-E-F-T-R-I-A-X-O-N-A. That, by no means, is standard of care. That's very much in the experimental stage right now.

Q Was Certriaxona available to the emergency room staff at Mt. Sinai Medical Center in November of 1986?

A I don't think so. I don't think it was approved for

use in pediatrics at that time, but again, I'm not certain. I'm pretty sure it was investigational at that time. I'm absolutely certain it wasn't standard of care. Because it's still not. I don't know whether it would have made any difference, as we discussed. This is purely speculative.

Q You only said possibly.

A That's right.

Q And you were not willing to say that prompt institution of antibiotic therapy for this child would have definite--would have, with a reasonable degree of medical probability, saved her life. You're not prepared to make that statement?

A That's correct.

Q I guess what I don't understand at this point is how the medical community saves a child with a meningococcal infection. I mean how does some live and some die. Is it pure chance?

A I think a lot of it has to do with what kind of illness with meningococcus children have. I think the children that have the overwhelming infections, without meningitis, are going to die in the majority of instances, regardless of what you do. And I think that the kids who have them, for some reason that I don't understand, some kids seem to have a more indolent

course. They don't have this...

Q Indolent, I'm sorry. What is indolent?

A Not overwhelming. It just kind of goes along. For instance, a child who gets meningitis, there are some people--meningitis is one of the worst illnesses in childhood. With a meningococcal infection, which is meningitis being an inflammation of the meninges, an infection around the brain. With a meningococcal infection, it's the only infection that I know of that it's a good prognostic time to have meningitis.

Q Because you can reach a diagnosis more easily?

A You can reach the diagnosis. One presumption that some folks have, and again, it's speculative, that the reason the kids with meningitis do better is that they have seeded their meninges from an infection in the bloodstream, but there is an infection in the bloodstream.

Q I'm sorry. They seeded?

A The meninges get infected probably via the bloodstream. The blood goes everywhere in your body, and probably the blood carries the germ to the meninges, and that's where the meninges get the infection, and that's how the germ starts growing there. And presumably, the kids that get meningitis, there is something about their illness that allowed them not to die from the infection

being in their bloodstream, not to die immediately. It seems like there is a group of kids, they get the infection in their bloodstream, and a lot of them will die regardless of what you do, and it seems like there are kids that can fight that infection to allow it, if it stood around long enough, that it can actually go to their meningi. Again, that's speculative. Nobody knows if it's true. But those kinds probably have a better chance, because there is something about their initial infection that didn't kill them immediately. And again, nobody knows why, but there just seems to be a couple of groups of kids. There are some that just crash, and there is not much you can do about it, and there are others that give you more of a clue, and they give you a chance to make a diagnosis. The kids with meningitis, for instance, if you do a lumbar puncture on them, there is evidence of meningitis in the lumbar puncture, and you know those children have to come into the hospital and be treated. But whether they have a different illness. It's the same germ. There is something about the way the host, the child responds to the germ that's dramatically different in different children.

Q Can you tell which of these two classes of children Orlean Grant was in, from the records that you have and the information that you have?

A It appears to me that Orlean Grant had an overwhelming sepsis, and the reason I say that, at least from the information available to me, at 11:00, Orlean Grant looked great, and at 6:00...

Q Now do you mean to say great?

A That's the understanding that I have. That the child was...

Q If that's what you mean to say. If that's what you mean to say, I just wanted to make sure.

A The understanding I have, the child took a bottle well, was smiling and responsive to the mother at that time, and then by 6:00, the child was dead, with no evidence of meningitis.

Q 6:00 a.m.?

A That's right.

Q And it's logical to you, you don't have trouble with the notion that this septacemia could have arisen subsequent to her discharge and killed her within seven hours of being discharged from Mt. Sinai? That's not something that's logically silly to you?

A It's potentially such an overwhelming infection, as I related from that anecdote in the emergency room, where I wasn't directly involved.

Q The kid with the petechiae, but we don't have petechiae in this case, and you and I know that that's a

real poor prognostic sign, don't we?

A A few petechiae aren't really that bad. It's just if you have showers of them, it's a poor prognostic sign. But a few scattered ones probably are not.

Q So your review of this case leads you to conclude then, that this was a tragic death that couldn't have been avoided, Orlean Grant's?

A Couldn't have reasonably been avoided. Again, I don't know whether the antibiotics would have made a difference, but my review--I have no reason to think it probably would have.

Q And there is nothing in this record to suggest that there was a basis upon which antibiotic therapy would have been instituted, unless you just do it for everybody that comes in with a high fever.

A That's correct.

Q And you don't think that's good standard of care, do you?

A No, I don't.

Q You called it impaired use, I think.

A That's right.

Q And even with impaired use, your testimony is, you're not sure the child would have survived, and there is nothing in the record that would have led you to diagnose, or led you to order antibiotic therapy anyhow,

right?

A That's correct.

Q So in your opinion, this child was just one poor, doomed, tragic victim of life?

A I guess I would put it--that's right.

Q In no, way, shape, or manner does her exposure to the staff at Mt. Sinai Medical Center on the evening of November 10th have anything to do with the fact that she died at 7:30 the next morning?

A As best I can tell, unless they did a CBC, and unless it happened to come back very low. Then that's the vast minority of cases, it would have presented like this.

BY MR. GOLDENSE: Thank you. I'm going to order this written.

BY DR. IRWIN: Would you submit it to him for signature, to the doctor?

BY MR. GOLDENSE: Let the record reflect that there will be no waiver of signature. I would like you to transcribe it, please, and make arrangements with Dr. Macknin to have him read it before it becomes his testimony for this.

BY DR. IRWIN: I would appreciate it if

you would send it to the doctor. Do not ask him to come downtown, and I would also appreciate if we would have twenty-eight (28) days to read it, rather than seven.

BY MR. GOLDENSE: Twenty-eight (28)?

BY DR. IRWIN: That's right.

BY MR. GOLDENSE: Now wait a minute. I've got a deposition December 1st.

BY DR. IRWIN: How about fifteen (15) days?

BY MR. GOLDENSE: Fine. I mean I'm sensitive to the man's time.

BY DR. IRWIN: I appreciate that.

BY MR. GOLDENSE: If I didn't have the December 1st deposition, I wouldn't care. I would give you fifty (50) days.

(OFF THE RECORD)

BY MR. GOLDENSE: For the record, you have not chosen to waive your signature, which is perfectly your right, no problem. What will happen now at this point is, the court reporter will transcribe everything you have said today. There is a trust phenomenon at

work here, as to whether or not the court reporter who transcribes what is said today, does so accurately. If you think there is anything wrong in the way your words appear, you can make those changes right on the record that will be submitted to you. Now the fact that you make those changes can be pointed out to the jury if this case is tried, but you have an opportunity to approve your testimony before anyone can use it to impeach you when this case goes to trial.

BY DR. MACKNIN: That sounds awful, but okay.

BY MR. GOLDENSE: It's a right you have.

BY DR. MACKNIN: Okay.

BY MR. GOLDENSE: Anything else, Mr. Irwin, that you want to add to...

BY DR. IRWIN: Just clarify that he can modify his testimony, to correct any inaccuracies, or if he wishes, he can modify his testimony to clarify his testimony.

BY MR. GOLDENSE: Absolutely.

BY DR. IRWIN: Not which make him susceptiable to cross-examination, but you have the right to change that if you like, for purposes of clarifying.

BY MR. GOLDENSE: I mean you can't change the substance of your testimony.

BY DR. MACKNIN: I understand, sir.

(END OF DEPOSITION)

I have read the foregoing from page 1 through page 100 and note the following corrections:

PAGE	LINE	CORRECTION

_____

MICHAEL MACKNIN, M.D.

CERTIFICATE

The State of Ohio)
County of Cuyahoga) ss

I, MARC EPPLER, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that the abovenamed MICHAEL MACKNIN, M.D. , was first duly sworn to testify the truth; that the testimony then given by him was tape recorded and reduced to writing; that the foregoing is a true and correct transcript of the testimony given by the witness as aforesaid, that said deposition was taken and that it was completed without adjournment; that I am not a relative or counsel of either party or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of office in Cleveland, Ohio this _____16TH_____ day of _____NOVEMBER_____, A.D., 1988.

Marc Eppler

MARC EPPLER
Notary Public
State of Ohio
My commission expires:
10-4-93

THE CLEVELAND CLINIC FOUNDATION

9500 Euclid Avenue Cleveland, Ohio 44106

A National Referral Center An International Health Resource

Michael L. Macknin, M.D.
Head. Section of General Pediatrics
216/4-445512

June 29, 1987

Defense Report

John R. Irwin, M.D.
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RE: Orlean Grant, dec'd v.
Mt. Sinai Medical Center

Dear Dr. Irwin:

This letter is written to summarize my impressions on the appropriateness of the care given to Orlean Grant on 10/10/86 in the Mt. Sinai Hospital Emergency Room. Also, I will offer my impression, in view of the autopsy findings, whether or not anything could have reasonably been done differently which might have saved this child's life. I will first review the outlined history, then discuss the physical examination, laboratory evaluation, treatment of the child, subsequent clinical course, and autopsy findings.

The initial history as outlined in the chart does not provide a clear etiology of the patient's problems. Other than symptoms of "crying, a dry cough, poor apperite, vomiting after eating, and feeling warm," there are no other positive findings outlined in the history. This initial non-specific history is very common in young children with high fever.

The physical examination also offers no specific clues as to the etiology of the patient's illness. The child's general appearance is initially described as "crying." The initial fever was 105.4°F. After treatment with Tylenol 80 mg, the fever returned to normal (100°F rectally) and the baby was described as taking two bottles of D_5W well. The child was then discharged from the Emergency Room.

Laboratory evaluation included a normal chest x-ray and urinalysis.

Discharge instructions at 11:00 p.m. on 10/10/86 included encouraging fluids, 1/2 teaspoon of Tylenol every four hours, and the child was to have been seen the next morning in Pediatric Clinic.

The child was apparently found dead in her crib at 7:30 a.m. on 10/11/86. Autopsy revealed the cause of death to be "septicemia, meningococcal with adrenal hemorrhage, diffuse, bilateral (Waterhouse-Friderichsen syndrome)."

The important question to answer in this case is was there anything that could have been done to prevent this child's death? If the child had been admitted and treated immediately upon presentation to the Emergency Room, the child might have lived. In a Nigerian study, 6% of children died who presented with meningococcaemia without coma, or shock. However, 93% died who presented with coma and shock (1). Therefore, it is reasonable to assume an early admission with prompt antibiotic treatment would have possibly been helpful.

However, there is no indication that standard medical practice would have resulted in this child being admitted to the hospital or being treated with antibiotics.

Possibly, the only clue to the potential severity of this child's illness would have been the subjective assessment that the infant appeared unusually ill. It is unclear to me from the Emergency Room notes if the child appeared "toxic" in the Emergency Room. Sometimes on the basis of toxicity alone, a skilled clinician will start antibiotic treatment (2). However, the pediatric literature generally contraindicates starting antibiotics without a defined bacterial source for an infection (3) unless a child is clinically severely ill, or possibly has laboratory tests which suggest possible severe illness (4,5).

Unfortunately, in this child's case of meningococcaemia, there were most likely no objective clues to the severity of the illness which could have reasonably been detected prior to the child's death. Sometimes petechiae offer a clue to the occurrence of meningococcaemia prior to death. However, the child did not have petechiae described in the Emergency Room or at autopsy. Many academicians would have performed complete blood counts, blood cultures and possibly sedimentation rates in a seven month old with a high fever (6). Most community practitioners would not routinely perform such tests (7), and they would proceed with these tests only in a severely toxic-appearing infant. Even had these tests been performed in this child, the results most likely would have been unhelpful and, in fact, falsely reassuring (8). In most serious bacterial infections, high white blood cell counts and sedimentation rates are the rule (9-14). However, in serious meningococcal infections, low or normal white blood cell counts and sediemntation rates are most common (8). A normal lumbar puncture is generally reassuring that a child does not have meningitis. However, in meningococcaemia the absence of meningitis (as in this case) is a poor prognostic sign (8).

Even if a blood culture had been obtained the evening of 10/10/86, no results would have been available before the child died at 7:30 a.m. 10/11/86. The only test which might have detected meningococcaemia before the child's death was an antigen detection test on the urine or blood. However, there was no clear indication for performing this test in this child.

In summary, every reasonable laboratory test probably would not have offered a clue to the diagnosis in this child. Only a subjective determination that the infant was severely ill and the empiric use of antibiotics might have helped this child survive. However, I cannot definitely tell from the chart whether the child appeared severely ill in the Emergency Room. Unless the child did appear severely toxic in the Emergency Room, I cannot reasonably see any way this tragic death could have likely been prevented.

Sincerely,

Michael L. Macknin

Michael L. Macknin, M.D.

MLM/sg

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