State Of Ohio,)
County of Cuyahoga.) SS:

IN THE COURT OF COMMON PLEAS

JACOB A. FIKTUS, etc., et al.,)
Plaintiffs,)
vs.) Case No. 430662
) Judge Villanueva
UNIVERSITY HOSPITALS OF CLEVELAND, et al.,)
Defendants.)

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THE DEPOSITION OF MICHAEL S. CARDWELL, M.D.
THURSDAY, MARCH 27, 2003

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The deposition of MICHAEL S. CARDWELL, M.D., called by the Defendants for examination pursuant to the Ohio Rules of Civil Procedure, taken before me, the undersigned, Marcie S. Smith, a Registered Professional Reporter and Notary Public within and for the State of Ohio, taken at 3335 Meijer Drive, Toledo, Ohio, commencing at 2:20 p.m. day and date above set forth.

APPEARANCES:

On behalf of the Plaintiffs:

Howard D. Mishkind, Esq.
Becker & Mishkind Co., LPA
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Cleveland, Ohio 44113

On behalf of Defendant University Hospitals of Cleveland:

Jan D. Roller, Esq.
Davis & Young Co., LPA
1700 Midland Building
Cleveland, Ohio 44115

APPEARANCE VIA TELEPHONE:

On behalf of Defendants University OB/GYN Specialists, Robert Kiwi, M.D., and Ricardo Loret de Mola, M.D.:

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MICHAEL S. CARDWELL, M.D., DEPOSITION INDEX

MICHAEL S. CARDWELL, M.D.

of lawful age, called by the Defendants for examination pursuant to the Ohio Rules of Civil Procedure, having been first duly sworn, as hereinafter certified, was examined and testified as follows:

EXAMINATION OF MICHAEL S. CARDWELL, M.D.

BY MS. ROLLER:

Q Doctor, my name is Jan Roller, and I represent University Hospitals of Cleveland in the lawsuit that's been brought by the Fiktus family. And we're here so that Joe Farchione and I can take your discovery deposition.

Would you please first just state your full name for the record.

A Michael S. Cardwell, M.D.

Q And, Dr. Cardwell, I'm aware that you're familiar with the deposition process because I was with you just a couple weeks ago doing the same thing, correct?

A Yes.

Q You have in front of you documents. Could I just see what you have?

A Yes.

Q And perhaps maybe it would be quickest if I just

looked over your shoulder and you can read into the record what it is that makes up part of your file.

A My October 23, 2002 report, expert letters of Dr. Turrentine, and that's two of those.

Q There's two what?

A Expert reports from Dr. Mark Turrentine.

Q Oh, yes. Okay.

A Expert report from Nurse Lupe, L-U-P-E; expert report from Dr. Weinstein, the nursing policy from University Hospitals of Cleveland concerning the use of Pitocin, a stack of fetal monitor strips from the last hospital admission and delivery of November 24 -- 23-24, 1997, and some strips of prior admissions to the hospital on October 29, 1997 and November 3, 1997, and November 22, 1997, the deposition of Dr. Ricardo Loret de Mola.

Q You have to open that one.

A Dr. Mary McHugh, M.D., Dr. -- or excuse me, James Fiktus, F-I-K-T-U-S; deposition of Kelly Fiktus, deposition of Dr. Neil Friedman, depositions of nurses, including Nurse Sandra Lucarelli, Tracy Arbertha, and Julie Haas, various medical records of Jacob Fiktus after

delivery.

Q Do you know from what locations those records come?

A Cleveland Clinic Foundation and looks like University Hospitals.

Q Do you know if there are sources other than those two institutions?

A It looks like records from a pediatric orthopaedic surgeon.

Q And Vocare?

A Vocare. Records from Cleveland Clinic Foundation, records from the Rehabilitation Services Commission Bureau, Disability of Ohio; various records and letters from Dr. Neil Friedman, M.D., records of Kelly Fiktus from Pitt County Memorial Hospital, Greenville, North Carolina; and the hospital records of the pregnancy in question from University Hospitals of Cleveland concerning the mother and the baby, records from Wayne Memorial Hospital, North Carolina. These are records prior to her arrival in Ohio.

And neonatal records of the baby after delivery from University Hospitals of Cleveland, records from Dr. Kelly Kinston, K-I-N-S-T-O-N,

Dr. Kiwi, and more fetal monitor strips.
Q And how about this stuff (indicating)?
A And depositions of Dr. Josephine Wang, fetal heart rate tracings of November 24, 1997. And this is a group of letters, correspondence from the Becker & Mishkind law firm.
Q Let me just look at those just for a second.
And, Doctor, these letters that you've just handed me appear to be in chronological order. And the first is dated December 31, 2001. Does that sound about right?
A I think so.
Q Okay. Is that the first time you were contacted about this case?
A Let's see. The record was initially sent to me, I believe, in the summer of 2001, and I received a phone call prior to that.
Q Who sent them to you, if you know? Was it Attorney Mishkind's office or was it a different law firm?
A No. Attorney Mishkind's office.
Q You say that was in the summer of 2001?
A I believe so.
Q Do you have any correspondence relating to that?
A If it's not in there, I don't.

Q Well, what happened in the summer of 2001 relating to this matter?

MR. MISHKIND: Objection.

Q With respect to any contact you had with Attorney Mishkind's office, you said you got records at that time?

A Records and telephone conversation. There might have been more than one telephone conversation.

Q Who is the person that you spoke with from Attorney Mishkind's office?

A I think Attorney Mishkind.

Q Okay. And what were you asked to do at that time?

A I was asked to review the records and see if this was a meritorious case as far as any medical negligence is concerned.

Q And you have authored one report in this matter; is that correct?

A Yes.

Q And what's the date of that?

A October 23, 2002.

Q I note among all the documents that you just described, I do not see any notation, any notes of any type from you; is that correct?

A That's correct.

Q You've never written a note on any of the materials that you've reviewed nor on a separate piece of paper about anything you've signed in this case?
A That's correct.
Q And you simply dictated the report of October 23, 2002?
A No.
Q What did you do?
A I typed it myself.
Q You typed it yourself, okay.

Do you have any prior drafts of that report?

A No. I typed it myself. No need for drafts.
Q From all of the stuff -- all of the things you just told me that you have in front of you, have you reviewed anything else for this case?
A Yes.
Q What's that? You're handing me some things.
A I reviewed four sources. The first source would be the monogram or monograph from Awhonn, A-W-H-O-N-N, entitled Fetal Heart Monitoring, Principles and Practices, which was printed in 1994.

And then I reviewed Williams Obstetrics,

20th edition, which was published 1997. And you have the pages in front of you.

Q The articles here are pages -- well, one page, page 431?

A Yes.

Q Okay.

A I reviewed also the textbook Neurology of the Newborn by Dr. Volpe, V-O-L-P-E. And I copied that and you have in front of you page 415.

Q Thank you.

A And lastly I copied pages from a textbook entitled Human Labor and Birth, 3rd edition, published in 1975. And you would have pages 476 and 477 in front of you.

Q Okay. And you provided me with copies of each of those?

A Yes.

Q Thank you very much.

Other than these four sources of information, have you reviewed any other literature for purposes of this case?

A No.

Q Doctor, I have a copy of your curriculum vitae. I'd like to mark it as Exhibit A, but before I do, let me show it to you so you can tell me

whether or not it's current.

A Yes, this is my most current CV.

MS. ROLLER: Why don't we mark that as Exhibit A.

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(Defendant's Exhibit A was marked.)

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MS. ROLLER: Thank you.

Q Doctor, in order to save time, I asked you a number of questions three weeks ago on February 22, 2003 about your background.

Has anything changed regarding your background since then?

A No.

Q All right. Let me ask a few follow-up questions that I wouldn't have asked you then.

Have you ever been retained to serve as an expert by anyone from Attorney Mishkind's office, including himself, before this case?

A Yes.

Q On how many other occasions?

MR. MISHKIND: Are you talking about me or the firm?

MS. ROLLER: The firm. The firm.

MR. MISHKIND: Okay.

A And your question was?

MR. MISHKIND: I'm sorry.

Q How many other cases other than this one?

A Probably about -- I would say at least half a dozen.

Q Okay. And who were the other lawyers in his firm that have retained you?

A Mike Becker. And I seem to recall years ago there might have been a John Lancione.

THE WITNESS: Am I correct?

MR. MISHKIND: That's correct.

Q Junior?

MR. MISHKIND: Yes.

Q Okay. Yes. Are those the only other two other than Mr. Mishkind himself?

A Yes, directly retained me. John Burnett has attended a deposition in lieu of Mike Becker on one or two occasions.

Q And I didn't mean to assume anything.

Has Howard Mishkind himself retained you before this case?

A Yes.

Q How many times has Howard retained you?

A I believe this is his second one.

Q Okay. And then with respect to John Lancione, Jr., and Mike Becker, how many times have they each retained you?
A Attorney Lancione, I believe only once; and the remainder would be Mike Becker.
Q Have you testified in any case, whether it would be by videotaped deposition or in live appearance, for a case that went to trial where the plaintiffs were represented by anyone from Attorney Mishkind's firm?
A Yes.
Q How many times has that occurred?
A Once for Attorney Mishkind several years ago, I believe, and once or twice for Mike Becker.
Q All right. Tell me what those cases involved. First, the three that did go to trial, the two for Mike Becker.
A One of his cases involved an incompetent cervix case. And I believe there might have been a fetal distress case. It's been quite a number of years.
Q That was the same case or a different case?
A A different case.
Q Okay.
A And Attorney Mishkind's case was a group B strep

case.
Q And do you recall what the other three cases involved?
A No. I'm sure some obstetrical issue, but I don't remember the exact issue.
Q Did any of the cases you've previously been retained by the Becker, Mishkind firm involve cerebral palsy as an outcome?
A The fetal distress case probably did.
Q When was that case? When did you testify in that case?
A I think that was the first case I was engaged by the law firm. That must have been maybe eight or ten years ago.
Q And do you recall the outcome of those three cases that went to trial?
A I know the outcome of one. The one with Attorney Mishkind was a verdict in favor of the plaintiff. I'm not sure about the other two.
Q And when was that case?
MR. MISHKIND: My case?
A The group B strep case?
Q Yes.
A It had to have been four, five, six years ago.
Q Where was that case tried?

A Cleveland.
Q Okay. Your CV lists a number of publications, Doctor. Do you believe that any of them are relevant to the issues that are present in this lawsuit?
A No.
Q You previously told me that you have been a defendant in a lawsuit seven times and three were pending as of February 21, 2003.

Is that still the case, that three are pending?

A Yes.

MR. MISHKIND: Let me show an objection to any questions as it relates to any claims against the doctor.

You've already answered the question, but I'll just show a continuing line of objection.

Q Of those seven cases, can you tell me the nature of the allegations against you, what was the problem in the case?

MR. MISHKIND: And may I have a continuing objection --

MS. ROLLER: Absolutely.

MR. MISHKIND: -- just so I don't have to interrupt you?

MS. ROLLER: Absolutely.

A I can tell you the ones that have been dismissed. I don't think I can go in too much detail of the three that are pending. And I'm not sure I even counted this one in the seven.

One I was misnamed as a defendant. It was a Dr. Calwell and not a Dr. Cardwell.

Q Okay.

A Another case involved rupture of a uterus from a cornual ectopic pregnancy.

Another case involved a placenta previa baby who was delivered at term and died from some kind of congenital neurological problem about a year after.

Another case involved a baby who died from choriomeningitis after the patient was transported and sitting in an outreach hospital for two weeks for ruptured membranes. That was dismissed.

And I think there might have been another case. That is four.

Q That's four.

A I don't recall any others. I think that's -- that is four counting the misnamed one?

Q It is including the misnamed one.

A Another case I was dismissed. The baby received thermal injuries in a neonatal intensive care unit. They named everybody; they dropped me. I don't know what the allegations are -- or were.

Q You're saying in each of the cases that you've just made reference to you were dismissed from those cases?

A Yes.

Q And then there are three pending cases?

A Yes.

Q Let me ask you: On the three pending cases, do any of the babies in those cases suffer from cerebral palsy?

A I don't think so, but I haven't had an opportunity to review the medical records on those babies, so I'm not certain one way or the other.

Q Knowing the nature of the allegations against you in those cases, is it possible that they may include a claim that the baby has cerebral palsy?

MR. MISHKIND: Let me just object.

And I'm not instructing you not to answer, I'm only cautioning you because it sounds like

these cases are fairly new. I'm not your attorney, but what you say relative to these issues may or may not impact your defense in those cases. So I would just suggest to you that you answer cautiously with regard to that.

And I think you can appreciate that?

MS. ROLLER: Yes.

Q And I'm simply asking of your knowledge.

A And I cannot tell you one way or the other.

Q Fine.

Of the three pending cases, did any of them involve a C-section?

A No.

Q And are all three currently pending in Lucas County?

A Yes.

Q You are board certified with the American College of Obstetrics and Gynecology, correct, sir?

A No.

Q You're not.

A I'm board certified through the American Board of Obstetrics and Gynecology. That's separate from the college.

Q Okay. Thank you.

You are a fellow with the American College of Obstetrics and Gynecology?

A Yes.

Q When did you become a fellow?

A I became a junior fellow during my residency. And once I became board certified, I then converted from a junior fellow to a fellow. So that would have been approximately 1987.

Q What does it mean to be a fellow of the American College of Obstetrics and Gynecology?

A To become a fellow, the doctor must be board certified within obstetrics and gynecology, submit an application to the American College, meet other criteria, and then he or she is voted in or out.

Q Doctor, what publications do you regularly review in your profession?

A American Journal of Obstetrics and Gynecology, The Green Journal, or also known as Obstetrics and Gynecology; The Contemporary OB/GYN, OB/GYN Management, JAMA, or Journal of American Medical Association; Journal of the American College of Legal Medicine, several throwaways, OB/GYN News, two ultrasound journals. I think that's about it.

Q Okay. Do you review the publications of ACOG?
A Yes.
Q Do you plan to appear as a live witness at the trial in this case, which is scheduled to begin on April 23rd, sir?
A If I'm asked, if I'm available, I intend to.
Q And I understand that if you do appear as a live witness, your charge for appearance that day will be $12,000?
A Yes.
Q Doctor, would you agree that the duties and responsibilities of nurses differ from that of physicians in caring for a patient in labor?
A No. I would not entirely agree with that. It depends on the issue that is being looked at.
Q Okay. What issues, then, would you say are those that are the responsibility of the nurses as opposed to the physicians?
A Well, the nurses generally have nursing responsibilities, which means taking vital signs, recording the vital signs and following the physician's orders. But there are overlapping areas in which the duties of the nurse would more or less be coinciding with the physician's duties.

Q What are those duties that you're referring to?
A For example, when a patient is to be given Pitocin for augmentation or induction of labor, it's -- it is both the nurse's duty and the physician's duty to monitor the patient and to watch for any evidence of a nonreassuring fetal heart rate pattern, or any evidence that Pitocin is having ill effects. That's the duty both of the nurse and the doctor.
Q Can you give me any other overlapping responsibilities in this case that relate to this case?
A Interpretation of fetal monitor tracings and performing intrauterine resuscitative maneuvers, if necessary. That would be an overlapping function. Preparation of the patient for a cesarean section would be an overlapping function. Performing a C-section, of course, would be a physician function.
Q Okay. When a nurse and a doctor are both present, whose responsibility is it to determine the appropriateness of the administration of oxytocin?
A It's an independent duty. Both the nurse has an independent duty to the patient and the doctor

also. Most of the time the duties are complimentary.

Q When a nurse and a physician are both present and they disagree on a particular point, must one defer to the other?

MR. MISHKIND: Objection, but you can answer.

A In some cases, yes; in some cases, no.

Q Okay. Regarding the administration of oxytocin with that example, same question.

A If there's --

MR. MISHKIND: Show an objection, please, but go ahead.

A If there's a conflict between a nurse and the doctor concerning the administration of Pitocin, then the nurse would have an independent duty to the patient, who would have to access the chain of command if she thought there was a conflict between her interpretation or her concept of the situation versus the doctor's.

Q And to access the chain of command in that situation would be to do what, Doctor? What would the nurse have to do?

A Depends on the institution. But usually the labor/delivery nurse would go to her supervisor.

If her supervisor would have to go to someone else, it may be the chairman of the department, it may be the house supervisor, or it ultimately could even go up to the administrator.

Q I take it you have never worked as a nurse?

A No.

Q And you've never attended nursing school?

A No.

Q Have you ever taken any nursing courses?

A I have not taken nursing courses.

Q Have you ever taught any nurses?

A I have given lectures to student nurses.

Q On what topics?

A On high risk obstetrics, fetal monitoring.

Q Anything else that relates to this case?

A No.

Q Have you ever written on the topic of nursing standard of care?

A No.

Q Dr. Cardwell, was a Bandl ring present in this case?

A Yes. At a time of cesarean section it was found to be present.

Q Okay. Do you differentiate in any way regarding uterine rings? Do you make any distinction or

classification of rings found in the uterine wall?

A I don't. The one article I gave you, Human Labor and Birth, they try to make a distinction between a pathologic retraction ring, also known as a Bandl ring, versus a constriction ring, but I do not make a distinction.

Q Thank you.

What is the basis of any knowledge you have regarding -- and for our purposes, since you do not make a distinction, I'll just call it a Bandl ring. So the question -- is that all right with you since you don't make a distinction?

A Yes.

Q We'll just call a retraction ring, we'll call it a Bandl ring.

So the question is: What is the basis of any knowledge you have of the condition of a Bandl ring?

A The basis?

Q Yes. Of your knowledge.

A Well, that's one reason why I brought this particular article. I first learned about a Bandl ring, or pathological retraction ring,

when I was a resident.

In one of the references that I used when I was a resident was this book, Human Labor and Birth, which I gave you a copy of the relevant pages. And that was published in 1975. So I started my residency in 1979, and so I have had knowledge of this particular condition since I was a resident. So about 20 some -- 20-plus years, 25 years.

Q So you're telling me you first heard of a Bandl ring back in 1975 when you were a resident; is that correct?

A Yes.

Q Okay. Other than hearing of it at that time -- and did you read this portion of the Human Labor and Birth on a Bandl ring at that time?

A I'm sure I did.

Q Okay. Other than that, I'd like to understand better your knowledge and experience with a Bandl ring.

So let me ask you specifically: Have you ever managed a pregnancy where one occurred?

A When I was a resident. And that was the last time.

Q Okay. And you were a resident during what

years?
A From 1979 to about 1982.
Q Okay. So I take it then -- well, I should ask: In that particular matter that you're referring to, were you present for delivery, if you can recall?
A Yes.
Q All right. And what --
A Probably on several occasions I can recall, not specifically, but several times that we ended up doing a C-section for, quote, CPD and it was actually a Bandl ring that was causing the problem.
Q Where did you do your residency?
A University of Illinois, Peoria, at the St. Francis Medical Center.
Q How many cases did you -- how many different pregnancies was there a Bandl ring when you were a resident?
A Probably at least two or three, or maybe more. Back then we did not use Pitocin like Pitocin is being used now. We also used buccal Pitocin. I don't know if you know what that is.
Q No. What's that?
A Buccal Pitocin is Pitocin pills in which they

are placed within the cheeks of the mother. You would give her three, four, five, six. Sometimes she even looked like a chipmunk.

Q I was going to say, "Which cheeks, Doctor?". Mouth. Okay. I'm sorry.

A But that practice has long been gone.

MR. MISHKIND: Off the record.

(Off the record.)

A And let me finish my answer.

And also back when I was a resident, we did not really use internal monitoring because it was not really available to us back at that point in time.

Q Okay. So of the two or three or maybe more Bandl ring cases that you were aware of when you were a resident, the specific question is: Were you ever present for delivery? You said you recall one where there was a C-section; is that correct?

A One or more.

Q One or more.

Do you have any specific memory of the other one that was a C-section?

A I think they were all C-sections because we had ended up doing a C-section and we thought we

were doing a C-section for a cephalopelvic disproportion, but it was actually for a Bandl retraction ring.

Q Do you have a memory of actually seeing the rings?

A I have an impression. I don't have an exact memory of the particular patient.

Q You have not written on the topic, correct?

A Correct.

Q And so it's fair for us to understand that you have not managed a patient in your private practice who went on to have a Bandl ring at the time of delivery. That's a fair statement?

A That's correct.

And just like what Williams Obstetrics said, it's very unusual to even see this unless the labor has been obstructed.

Q Have you ever attended a seminar on the topic?

A No.

Q How rare, then, is it, Doctor, a Bandl ring?

A It's very unusual to see any nowadays. I want to say -- nowadays, I'm talking within probably the last ten, 15 years. The cases I mentioned to you when I said as a resident, it was, I would think, fairly common. And not one percent

but, I mean, it would not be unusual in a large hospital to see a case of that type during a period of a year.

Q Are you saying at that period of time or now?

A At that period of time.

Q Okay. When you were a resident?

A When I was a resident.

Q Where was the Bandl ring located in Kelly Fiktus, if you know?

A Just above the lower uterine segment.

Q When did it develop?

A When?

Q Yes.

A Progressively during the course of her labor. I don't know if you want me to get into it now, or I don't know if you want me to go through the strips later or whatever but --

Q I want to know to the best that you're able to tell me, and if you can't tell me, then tell me that as well, but if you have opinions as to when the Bandl ring developed, I want to know when you believe that occurred.

A Well, let me put it this way: A Bandl ring develops over a course of a period of time. I'm fairly certain that the ring was not present

before the start of the Pitocin.

Q What's your basis for saying that?

A Because there was no evidence of hyperstimulation, hypertonus prior to that. And one of the causes of a pathologic retraction ring is the use of Pitocin causing hyperstimulation and hypertonus. And we knew that back in 1975. That's also included in that reference.

Q You've just held up, again, two pages from the Human Labor and Birth, 3rd edition. And can you tell me, and point it out to me, if you would, where it says here that either Pitocin and/or uterine hyperstimulation causes a Bandl ring?

A On page 476, bottom of the page. Causes include: One, intrauterine manipulation.

Q I want to make sure I'm with you, Doctor. I'm looking here at this paragraph (indicating).

A Yes.

Q Okay. It says, The constriction ring grips the fetus tightly and prevents its descent. Then it's dark on the page. What does it say next?

A No. No. Before that. There's four causes which is listed.

Q Okay.

A Which are listed. One, intrauterine manipulation; two, failed forceps; three, the use of oxytocin when a uterus is hypertonic; and four, spontaneous constriction ring which usually occurs in a colicky uterus.

Q What's a colicky uterus?

A A uterus which is hyperirritable, having a lot of uterine activity.

Q Okay. Other than this source that you're referring to, have you ever seen it written anywhere else that the use of oxytocin when a uterus is hypertonic can cause a Bandl ring?

A The use of oxytocin? Not necessarily the use of oxytocin, but when there's an obstructed labor.

Q Well, let's go back to my question. The question is: Other than this one article from Human Labor and Birth, I'm asking you have you ever seen it written anywhere in the literature that the use of oxytocin when the uterus is hypertonic can be a cause of a Bandl ring?

A Other than this one, no.

Q And you've never personally experienced it yourself?

A Not since I was a resident, no.

Q And when you were a resident, you didn't use

Pitocin?

A No. We used Pitocin. We used it differently than we do nowadays.

Q You called it Buck Pitocin?

A Buccal, B-U-C-C-A-L, Pitocin. Also, we used IV Pitocin but not with the method that we now use.

Q Well, how is it different? You said IV Pitocin but it's different. How is it different?

A It would have been very unusual. We did not use internal monitors to monitor a patient who is being induced, or augmented Pitocin or Pitocin.

Our protocol usually started at one milliunit, double the dose every ten minutes. So we have had patients on 80 milliunits, 160 milliunits. That was standard back then to give Pitocin, which nowadays it's not.

Q You're saying in the past they used to put patients on 180 milliunits of Pitocin?

A They would -- what we would do is start at one milliunit, double it every ten minutes until the uterus is contracting every two to three minutes.

Q And it could go as high as 180 milliunits?

A I've seen it real high.

Q Okay. Okay.

Would you agree with me that the cause of a Bandl ring is not well understood in the field of obstetrics and gynecology, in medicine in general?

A No, I wouldn't say that.

Q Why do you say that it is? Do you think it's well understood?

A I think it's well understood that uterine hyperactivity, either hyperstimulation or uterine hypertonus, or a combination thereof, result in the ring, particularly if there's any other reason for the labor being obstructed.

Q Are you making a differentiation between hyperstimulation and hypertonus?

A They are two different ways to describe uterine activity.

Q Okay. And the uterine activity that you're referring to is what?

A Contraction and the resting tone in between the contractions.

Q So you believe it's well understood as to the cause of a Bandl ring in today's medical literature?

A I think -- I think the Williams Obstetrics, in their one paragraph, more or less summarizes

that idea.

Q All right. Let's turn to that. Can you point that out to me, Doctor? Under which paragraph?

A Under the paragraph, Pathologic retraction ring.

Q Yes.

A And I can read this into the record. It's pretty short. Very rare that localized rings of constriction of the uterus develop an association with prolonged labors. The most common type is the pathologic retraction ring of Bandl, an exaggeration of the normal retraction ring described in Chapter 11. It is often the result of obstructed labor with marked stretching and thinning of the lower uterine segment.

In such a situation, the ring may be seen clearly as an abdominal indentation and signifies impending rupture of the lower uterine segment. Localized uterine constrictions are rarely seen today because prolonged, obstructed labor is unacceptable.

These may still occur occasionally as hour-glass constrictions of the uterus following birth of the first twin. In such a situation, they can sometimes be relaxed and delivery

effective, if appropriate general anesthesia, but occasionally prompt cesarean delivery offers a better prognosis for the second twin.

Q I appreciate you reading that paragraph, but is it your testimony that it is well understood as to what occurs in obstructed labor to cause a Bandl ring?

A I think this paragraph lays it out pretty well.

Q Could you answer that question, sir? Could you repeat it for me?

A Yes.

Q And what is it that occurs in obstructed labor to cause an -- -

A An exaggeration of the normal retraction ring. That's what it states.

Q And what is it that causes an exaggeration of the normal retraction ring? What is well understood in medicine today to cause that?

A An obstructed labor.

Q And what is it about an obstructed labor that causes the Bandl ring?

A Increased uterine activity, either hyperstimulation, hypertonus, or both.

Q Isn't it your testimony that a Bandl ring will always occur when there is a prolonged labor?

A No.
Q And it's very rare for that to occur, as a matter of fact, isn't it, for a Bandl ring to occur?
A It would be very unusual, yes.
Q Now, it's your testimony that Kelly Fiktus' Bandl ring was detectable at any time?
A No. That's not my testimony.
Q Okay. Let's me see if I have your opinions correct regarding the cause of Jacob Fiktus' cerebral palsy.

From reading your report, am I understanding you to say, and I'm just taking this right from your report, and I want to make sure I have your testimony understood, the use of oxytocin, or in the form of Pitocin, caused uterine hyperstimulation which, in turn, caused an umbilical cord compression which, in turn, caused an intrauterine hypoxia and ischemia; is that correct?
A Yes.
Q Okay. Do you believe that the intrauterine hypoxia and ischemia was an acute, intrapartum hypoxic event sufficient enough to cause cerebral palsy?

A No.
Q What caused the cerebral palsy?
A The ischemia from the umbilical cord compression and a traumatic injury to the baby from the ring.
Q Together?
A Together.
Q Okay. So the ischemia, you believe, contributed to the cerebral palsy. What caused the ischemia?
A Umbilical cord compression.
Q So that I have your testimony clearly, you're saying that the umbilical cord compression together with the Bandl ring caused an intrapartum hypoxic event sufficient enough to cause cerebral palsy?
A No. No.
Q Then please explain it to me. I thought I took it right from your report.
A No. It is my opinion that the injury to the baby was not the cause of intra -- not a result of intrauterine hypoxia. The result of the baby's injury was from the ischemia and the pathologic retraction ring.
Now, on the fetal monitor, the baby had

evidence of intrauterine hypoxia, which was temporary, and the heart rate came back to normal. But I'm not saying the baby had hypoxic injury intrapartum.

Is that clear?

Q Let me see. Hold on one minute.

A Let me read it to you again. And I know you have it in front of you.

Q Hold on. Actually, I don't.

A This is from my report.

Q Okay. Go ahead. The second paragraph?

A Yes. The uterine hyperstimulation caused umbilical cord compression. This caused intrauterine hypoxia and ischemia resulting in a nonreassuring fetal heart rate tracing. There were several episodes on the strip of bradycardia from cord compression and transient hypoxia.

The uterine hyperstimulation also caused a pathologic uterine retraction. The Bandl ring, the pathologic retraction ring, contributed to the baby's injuries as evidenced from the medical records.

And maybe it was not clear. I'm not contending that this baby had hypoxic injury

from intrapartum hypoxia. The cord gases were normal. The Apgar, which was, I believe seven, was reassuring. But the distinct injury that the baby had was from trauma and from ischemia, or a combination thereof, not from hypoxia.

Q How are you defining ischemia?

A Ischemia is decreased blood flow to the baby. And the blood flow that goes to the baby could be well oxygenated, it's just that the amount of blood flow, like from a cord compression, is not sufficient to give the baby enough blood to abstract enough oxygen. Not hypoxia.

Q Well, did the cord compression cause any injury to Jacob?

A I believe that the baby had injuries. And I'm probably going to defer specifically to a pediatric neurologist on this, but I think the combination of the cord compression and the pathologic retraction ring resulted in injury to the baby.

As a basis for that opinion, I refer to Volpe's Neurology of the Newborn, 3rd edition, 1995, on page 4715.

Q Okay. Where?

A Let me direct you to under the paragraph, Labor

and delivery.
Q Yes.
A About eight, nine lines down. There's a sentence which starts indeed?
Q Yes.
A And I'll read that into the record. Indeed, the deleterious effects of labor appear to be most pronounced in a most premature infant. The skull deformation can lead to obstruction of major venous sinuses and presumably increased venous pressure. Then they go on. I won't read the rest of the paragraph. It's very wordy. There's a connection between that type of injury to the baby and intraventricular hemorrhage.
Q Now, tell me, though, what is your basis for saying that the first -- tell me what your basis is for saying there was a cord compression.
A The fetal heart rate tracing.
Q What is your basis for saying that the fetal heart rate tracing is a result of cord compression as opposed to solely the presence of the Bandl ring?
A If it was just the Bandl ring itself, that would not show up on the fetal monitor tracing as any nonreassuring fetal heart rate tracing.

Q Why do you see that? What's the basis of that?
A Because there is -- retraction ring is on the baby's head. It's not insufficiency. It's not umbilical cord compression. Those two things -- uteroplacental insufficiency may result in repetitive, late decelerations. Cord compression would result in variable decelerations.

Just having a retraction ring would not give you either one of those unless there was something else, such as cord compression. And if there's enough uterine activity which causes the retraction ring, eventually, and even in normal labors, you would get some cord compression.

The sudden drop in the fetal heart rate, as evidenced on the fetal monitor tracing, is, in my opinion, secondary to cord compression.
Q Because you're saying it has to come from the umbilicus. That has to be the tracing that you see.

Can the only source of the tracing, the resulting tracing that we see, is the only way that that can be demonstrated is a cord compression?

A That's correct. Because, in general, there's two types of decelerations that we see the a course of a labor: Late decelerations, which reflect uteroplacental insufficiency, and that's not evidenced here; and variable decelerations, which reflect umbilical cord compression.

Q So to go back. With respect to your opinion, I still want to make sure that I understand what you're saying with respect to what you believe was a cord compression and as to any causative effect it had on Jacob with respect to his cerebral palsy.

Are you saying that cord compression existed and that it caused his cerebral palsy?

A That would be a question to direct to a pediatric neurologist.

Q Okay.

A I'll give my obstetrical causation opinions. As far as specifically the injuries to the baby, I would direct that to a pediatric neurologist.

Q So by what you just said, you are not offering an opinion in this matter as to whether or not the cord compression, which you believe did occur in this case, whether or not that caused Jacob -- or contributed to Jacob's cerebral

palsy?

A It could have, it may not, but I would defer that to a pediatric neurologist.

Q So to that extent, you're not offering an opinion on that matter?

A That's correct.

Q Okay. As an OB/GYN and a maternal-fetal medicine physician, then, let me ask you the other side of the causation question, which is the Bandl ring. Because you said before this cord compression and there's also obviously the presence of the Bandl ring.

What, in your opinion, if any, injury did the presence of the Bandl ring cause to Jacob?

A Well, I don't have any opinions on that because I think the medical records speak clearly to that issue.

From my interpretation in reading the medical records, it appears that the intraventricular hemorrhage, and other injuries which occurred to the baby, was a direct result of the Bandl retraction ring.

I believe Dr. Friedman has said that in several letters. It's written in the medical records. There are diagrams of the baby that

the neonatologist, and other members, actually drew in the chart to show the effect of the ring on the baby's head.

Q Well, with respect to when you say the intraventricular evidence, I want to ask you specifically so that I understand, what resulting injuries are you saying was caused by the presence of the Bandl ring?

A I think -- I mean, from my interpretation of the pediatric records, all the injuries of the baby was a result either/or, or a combination thereof, of the Bandl ring and umbilical cord compression as a contributing factor.

Q Have you seen the MRI of 1998, October 1998? He was about ten months old at the time.

A No.

Q You've not actually seen the film?

A No, I have not.

Q Did you read the report?

A I probably did if it's in my records.

Q A letter of Dr. Friedman includes a finding that Jacob suffers from PVL, periventricular leukomalacia. I believe it's an October 16th letter. In the first paragraph.

A I see it.

Q Can you turn to the CAT scan that was taken on, I believe, the 24th or 25th of 1997 in your records there?
A Without me going through 1,000 pages --
Q Do you want me to see if I can help?
MR. MISHKIND: To save some time.
MS. ROLLER: Yes. Sure.
Q I'll put it in front of you, Doctor.
A Yes, I've seen that.
Q Okay. Would the findings of Dr. Friedman relate -- that he sees from the MRI brain scan, including the periventricular leukomalacia, be consistent with the findings on the CAT scan? And I make note that there was found global decreased attenuation within the white matter of the cerebral hemisphere.
MR. MISHKIND: Objection.
A You are asking me a question outside of the scope of my expertise.
Q Okay. You can't say one way or the other?
A I'm not an expert on reading MRIs or CT or interpreting the reports.
Q All right. Fine.
Were there hypoxic events or hypoxia

occurring during Kelly's labor for the fetus?
A As I mentioned previously, there was, I believe, two or three episodes of fetal bradycardia that reflected hypoxia at that time, but it was a short-term event, the baby's heart rate recovered back to normal baseline. And I do not believe the fetus sustained any injury from that, or those episodes from hypoxia.
Q I guess to be specific, do you have the tracings in front of you, Doctor?
A Yes.
Q You believe uterine hyperstimulation occurred in this case, correct?
A Yes.
Q Okay. There's two things I want you to do for me, and if we can do them at the same time, that's fine; if not, let me know. I'd like you to tell me when the uterine hyperstimulation occurred and when you believe those two to three episodes of hypoxia occurred.
A Okay. I can -- probably the best way to do this is I can just take you through the strip --
Q Okay.
A -- verbally.
Q And I'd like you to use -- and I brought an

extra copy of the tracings. If you could mark it just with the yellow marker for me, we'll mark these tracings as Exhibit B.

A I usually don't mark on the strips.

Q No. This is an extra copy.

A I usually don't mark on any strips. I'm giving you my verbal testimony concerning the tracings.

Q Okay. How about -- well, we'll go along and if you tell me something, I'll put a yellow line on the strip.

A That's fine.

MR. MISHKIND: Okay.

MS. ROLLER: Let's mark this Exhibit B, please.

- - - - -

(Defendant's Exhibit B was marked.)

- - - - -

Q First, with respect to either one, I don't care, the period of hyperstimulation or the period of hypoxia.

A What I'm going to do, I'm just going to take you chronologically for each strip. It might be easier. Starting at about 1:00 when the Pitocin was started.

Q Are you going to be using military time or you

said 1:00.

A Let's use military time.

Q Okay. Let me make sure I'm on the same page as you. Does it start -- yeah.

A So I'm looking at the strip starting at 1251 on 11-24, 1997.

Q All right.

A And the Pitocin was started at approximately 1300.

Q All right.

A At 1300, when I look at the strip, I see a reassuring fetal heart rate tracing. I see uterine contraction occurring approximately every -- about every four minutes, but this is an external monitor, both for the uterine contractions and for fetal heart rate activity.

The first place that I can see uterine hyperstimulation on the strip is starting at approximately 1355.

Q Okay.

A There are contractions occurring about every minute. This would meet the criteria for uterine hyperstimulation, either -- using the criteria of uterine contraction, less than every two minutes or more than five in a ten-minute

window.

At this point in time -- by at least this point in time, the doctor, doctors, and/or the nurses, or both, should have instituted internal monitoring consisting of the intrauterine pressure catheter and the fetal scalp electrode.

MR. FARCHIONE: I'm sorry to interrupt. I did not catch that. You defined hyperstimulation. I think you said contractions less than every two minutes and something else.

THE WITNESS: Or more than five contractions between -- within a ten-minute window.

MR. FARCHIONE: I thank you very much. I'm sorry to interrupt.

Q Okay. Go ahead. You said you felt an IUPC should have been --

A And fetal scalp electrode in order to gauge the uterine activity in response to the fetus.

And if that was done, it's my opinion not only would we affirm uterine hyperstimulation, but we would also see uterine hypertonus. And uterine hypertonus is defined as a resting baseline of more than 20 millimeters of mercury when the mother is on oxytocin.

So it would have been, on impression, by approximately 1400, or 2:00 in the afternoon, that there was both hyperstimulation and uterine hypertonus.

Q How is that 20 millimeters of mercury measured? Do you use the IUPC?

A The intrauterine pressure catheter.

Q Okay.

A And it's my opinion if that would have been verified at that point in time, the Pitocin should have been discontinued.

Q At what time?

A At 1400, or thereabouts.

And I continue to look at the monitored tracing, because there was not an intrauterine pressure catheter at that point in time, I cannot tell you if there was uterine hypertonus, but more likely than not it probably was present.

Q Well, let me ask you this: You said, if I am recalling your testimony correctly, you felt that uterine hyperstimulation began around 1355?

A Yes.

Q Do you see it ending after that point?

A No.

Q At any time?
A Later on in the strips when the Pitocin was shut off, the uterine activity, the contractions appeared to be decreasing.
Q All right. When do you see that occurring?
A The first time I can see that occurring after the Pitocin was initiated would have been around 2005.
Q It's your --
A And I'm talking about uterine hyperstimulation.
Q It's your testimony that Kelly Fiktus had uterine hyperstimulation from 1355 to 2005 without interruption?
A Yes.
Q Did it recur, uterine hyperstimulation? And let me back up and sort of withdraw that question.

You're using the definition that you already put on the record for uterine hyperstimulation. And you're saying that occurred throughout that period of time?
A Yes.
Q Okay.
A And then starting at approximately 2115, there appears to be a return of uterine hyperstimulation. And that continues to the end

of the strip.

Q The last time that you have on the end of the strip is what, Doctor?

A 2244.

Q Okay. I think it's on the next page, 2245?

A 2245.

Q Okay. Again, using that same definition for uterine hyperstimulation, you believe it was occurring from 2115 to 2245?

A Yes.

Q Okay. Now, how about the fetal heart rate tracings in this strip that you have in front of you that we've marked Exhibit B, do you see periods of -- the term you used was hypoxia earlier. I mean, do you see that occurring in this tracing?

A I believe I said there was two or three episodes of bradycardia which reflects transient hypoxia at that stage.

Q Let's use bradycardia.

First of all, let's put your definition of bradycardia on the record.

A A baseline below 110 beats per minute.

Q For how long?

A Baseline can be -- I've seen various

definitions. Three minutes, five minutes, at least.

Q Did Jacob Fiktus' baseline change at any time?

A From the tracing that we have it appears to.

Q Okay. First, let's do that. Let's --

A Can I interrupt you?

Q Sure. Of course.

A Are we going to come back to uterine activity because we're not done with that.

Q Okay. I thought you had indicated throughout this tracing where you saw --

A Uterine hyperstimulation, but I did not talk about uterine hypertonus.

Q All right.

A We can do that now or we can do it later.

Q Since we're talking about it, let's do it now.

Where do you see uterine hypertonus?

A The uterine hypertonus can only be detected -- you can sense it clinically, but if you want to objectively define it, the patient would have to have an intrauterine pressure catheter placed. And she had an intrauterine pressure catheter placed at approximately 1600.

Q And from that can you determine whether or not uterine hypertonus occurred?

A And from that point in time until almost the entire strip, the resting tonus exceeded 20 millimeters of mercury for the great majority of the time.

Q Can you show that to me and point that out to me as I'm looking over your shoulder here?

A This line is 25 millimeters of mercury and it never dips, except occasionally, below that level, except for occasionally. If you look at the majority of the strip, it's above 20 millimeters of mercury.

Q And is there a time measurement for hypertonus? You know, in order to qualify as hypertonus, it has to be greater than 20 millimeters of mercury for three to five, ten minutes?

A No. Hypertonus is the resting baseline in between contractions that exceeds 20 millimeters of mercury.

Q Okay.

A And now you want me to do the fetal heart rate?

Q Would you, please, for bradycardia.

And though we are jumping around a little bit, I had asked you if the baseline changed at any time. You said you thought it did. Can you tell me what it was and when it changed?

A Well, the baseline changed when it goes from normal baseline to bradycardia. You're asking me at those points, right?

Q Did it change at any other time other than when it was at bradycardia?

A Not significantly. The baby's heart rate, if it's between 110, 160 baseline, that's a normal baseline.

Q So the only time you believe that it changed the baby's --

A Changed significantly when it went from normal baseline to bradycardia. And it appears to be at around 1920, 25. There appears to be a drop to bradycardia.

Q Is it that period of time that you're referring to 1920 to 1925?

A Starting at that period of time.

Q Well, wait a minute. That's several minutes. When are you saying the period of bradycardia starts?

A Well, I can't give you precisely because this is an external monitor and it's not tracing the fetal heart rate, but it appears -- the start of it appears to be somewhere between 1921 and 1925. Some of the tracing is missing. And then

the baseline appears to be about 90 to 100 beats per minute. From that time until it returns to the baseline, the normal baseline, at around 1936.

Q Is there another period of bradycardia that you see, Doctor?

A And then at around 2100, the fetal heart rate drops. And it appears to be a baseline of about 90 to 100 beats per minute.

Q From 2100 until when, Doctor?

A Until about 2118. And there appears to be another episode starting at approximately 2143, and the baseline is returned by 2150.

Q Any other periods of bradycardia that you see?

A No.

Q Okay.

MS. ROLLER: Just let the record reflect I've just put a hash mark on those times that you've called out as when you see fetal bradycardia.

MR. MISHKIND: And the record should reflect that you're doing it independent of -- you're doing things and he's telling you, so it's not that you're working like a well-tuned machine.

MS. ROLLER: So we'll make sure that occurs.

Q Doctor, you indicated uterine -- we'll go back to uterine hyperstimulation.

You said it began at 1355. And I put a "UT" there. Do you see that? Do you see the UT in yellow?

A Yes.

Q Until 2005. And I put that down here with a hash mark to indicate UT. Do you see that I've just written that in yellow?

A Yes.

Q And then on 215 -- I'm sorry. 2115, another hash mark down at the mother's tracings. Do you see that?

A Yes.

Q And you said until the end, until 2245, correct?

A Yes.

Q And that's right at the very end. And I put another UT there, correct?

A Yes.

Q And then of course with the fetal bradycardia, just to go through it, you said it began at 1921 through 1936. And it began somewhere between 1921 and 1925. And I put a yellow hash mark

right there, correct?
A Yes.
Q Indicating it went from that period through, as you indicated, 1936?
A Yes.
Q Okay. And then the next time was 2100. And we put that at the top of the strip to indicate that period of time, correct?
A Yes.
Q To 2118. I put a line there to indicate the ending point --
A Yes.
Q -- for that period.

And then the last one was 2143 through 2150 you indicated.

A Yes.
Q Okay. So does Exhibit A -- excuse me. Exhibit B reflect the period of uterine hyperstimulation and fetal bradycardia that you see in this tracing --
A Yes.
Q -- as indicated by the yellow markings on it?

Other than the tracings, the fetal heart rate tracings, do you have any other evidence of cord compression?

A I believe there's some notation of the fetal heart rate dropping in the nurse's notes and in the progress notes.

Q But my question, I guess, relates not so much as to other notations of the fetal heart rate tracings, but other than the fetal heart rate tracings and notations about the fetal heart rate tracings, do you have any other independent basis for your opinion that there was a cord compression?

A Other than my knowledge, my training, my experience, no.

Q Okay. Regarding the standard of care in this case, who, in your opinion, breached the standard of care owed to Kelly Fiktus and/or Jacob?

A The attending staff. And that would be Dr. Kiwi and Dr. Loret de Mola. The resident staff, which would include Dr. Wang, Dr. McHugh, and the labor and delivery nurses attending to the patient during the relevant period of time. That's, in my opinion, from 1:00 in the afternoon of delivery until time of delivery.

Q I'll get back to ask you specific questions about them. But let me ask you in general, did

Kelly Fiktus reach the active phase of the first stage of labor?

A If you -- it's hard to define in a patient who's premature because she was 34-plus weeks. In a term patient, once she reaches four centimeters dilated, she is considered to be in active phase.

To my knowledge, there's no defined criteria for pregnancies which are not term, but she did reach four to five centimeters dilated in the afternoon of, I believe, the 24th.

Q So your testimony is that she did reach the active phase?

A Yes.

Q Let's be a little more precise. Can you tell me when that was by the records in this case?

For convenience sake, I have an extra copy of the labor flow sheet if you just --

MR. MISHKIND: He's got it.

Q You've got it?

MR. MISHKIND: Yes.

A Yes.

MR. MISHKIND: What was your question now?

MS. ROLLER: When did she

reach the active phase?
A Some time between, using the usual definition, some time between 1935 and 2113.
Q And you're basing that on the labor flow sheet?
A Yes.
Q Okay. Doctor, do you agree that the term failure to progress is not a precise term?
A Yes.
Q When I say "ACOG", you know what I mean, right? American College of Obstetrics and Gynecology?
A Yes.
Q ACOG has concluded the more practical classifications are protraction disorder and arrest disorder. Do you recognize those terms?
A Yes.
Q And protraction disorder means slower than normal process and arrest disorder is cessation of the process. Do you use those terms?
A I have in the past, yes.
Q Do you agree the woman must be in the active phase of labor to diagnose either of those conditions, either protraction disorder or arrest disorder?
A A term patient would have to be in active labor.
Q What about a preterm patient?

A I don't think it's well-defined.
Q It's not well-defined?
A No.
Q So does that mean you cannot say one way or the other as to whether a woman must be in the active phase of labor if she is preterm in order to diagnose her as having a protraction disorder or an arrest disorder?
A I don't think we know.
Q Okay. Is it your testimony that Kelly Fiktus had either a protraction or arrest disorder in her labor in this case?
A She had some type of obstructed labor, either from a fetopelvic disproportion or from dysfunctional uterine activity, or a combination thereof.
Q You said from cephalopelvic disproportion?
A Fetopelvic disproportion.
Q Excuse me.
Or from?
A Or a dysfunctional uterine activity.
Q But you would not call her labor pattern either protraction or arrested. Fair to say?
A I would say that.
Q Do you see anywhere where Kelly Fiktus'

contraction pattern reached 200 Montevideo units for more than a ten-minute period?

A I did not calculate that.

Q Take your time, Doctor.

A But I'm sure there are places that, if you count the boxes, it would meet that type of criteria.

For example, not to belabor the point, but you can only do it once the pressure catheter had been placed.

Q Let's take it after that point then.

A And it was placed about four -- or 1600 in the afternoon. If you look at that part of the strip, starting at about 1603.

Q All right.

A It looks like, if you're just eyeballing the series of three or four uterine contractions, it appears that would meet 200 Montevideo units.

Q For a ten-minute period?

A Yes.

Q So tell me specifically where you're referring to then.

A From 1603, for the ten minutes thereafter.

Q Okay. Any other time? I guess I should ask, Doctor, at a point after which she had reached four centimeters.

Let's go with any point after she reached four centimeters, did she have 200 Montevideo units for ten minutes or more? And as you said, that period of time was 1935 to 2113.

A Perhaps at 2116 and in a ten-minute window thereafter.

Q Until when, Doctor? Do you see it?

A From 2116 to ten minutes thereafter. So it would be 2116 to 2126. But she's also having uterine hyperstimulation and uterine hypertonus.

Q Any other period?

A And if you look at 2202, probably until 2226, technically she would have had 200 units, Montevideo units, but we have uterine hyperstimulation and uterine hypertonus.

Q So you're saying from 2202?

A From 2202 until about 2226. Technically it's probably 200 units, but realizing she has uterine hyperstimulation and uterine hypertonus occurring at the same time.

Q What significance is that to you?

A If the patient is having uterine hyperstimulation and/or uterine hypertonus, it's irrelevant concerning the issue of how many Montevideo units are occurring.

Q Because?
A Because it's uterine hyperstimulation and uterine hypertonus.
Q And why does that negate the consideration of the strength of the contraction measured by Montevideo units?
A Because the units are used to gauge if the Pitocin is being effective and providing uterine activity sufficient enough to have normal labor. But in the presence of uterine hyperstimulation and/or uterine hypertonus, the fact it's 200 units, it's nonsensical, because what's important is the fact there's uterine hyperstimulation and uterine hypertonus.
Q All right. Is it your opinion that Kelly Fiktus should have been delivered earlier by C-section than she was?
A It's my opinion that within the hour or so, I believe I said around 2:00 in the afternoon, or 1400, when there appears to be uterine hyperstimulation on the external monitor, the doctors, the nurses, should have inserted the internal monitors, they should have discontinued the Pitocin and seen what occurred, or to affirm there's uterine hyperactivity.

I have no problem stopping the Pitocin at that point in time and restarting it at a much smaller dose. But if after each initiation of Pitocin, there's still hyperstimulation, hypertonus at, say, one milliunit or a half milliunit, this mother is not tolerating the Pitocin. Therefore, we have two options: One option is to allow her to labor spontaneously, second option would be to deliver by cesarean section.

In a premature baby at 34 weeks, we do not want that baby's head pounded through the birth canal with hyperstimulation and uterine hypertonus because it can cause intraventricular hemorrhage from trauma just from the excess uterine activity. It can cause the presence of Bandl retraction ring. It could cause a nonreassuring fetal heart rate tracing either from cord compression or uteroplacental insufficiency. It may cause problems to the mother, may cause rupture of the uterus because of hyperstimulation, uterine hypertonus. All those things are foreseeable. So if she could not spontaneously labor on her own, then it may have been necessary to do a cesarean section.

Q Okay. Thank you for all that, and I do appreciate that. You've said a lot. But I still need to go back and get an answer to my question.

A See, I can't answer your question because the doctors and the nurses did not do what the standard of care required them to do.

If they had put the internal monitors in at 2:00, it's my opinion that the uterine hyperstimulation and uterine hypertonus would have been affirmed, and the doctors and nurses had two options at that period of time: Stop the Pitocin, restart it at a much slower dose and see what happens. If it reoccurs, then the decision tree would either be to don't use Pitocin or do a cesarean section.

But since they didn't do what the standard of care required them to do, you know, I have to make my opinion based upon that period of time.

Q Now, there was a point in time when an IUPC was inserted?

A Yes. At 1600. Which was about three hours after Pitocin was started.

Q All right. It seems that your opinion here is based upon the absence of an IUPC, that you said

I'm not able to say -- you're not able to answer my question when I asked you should Kelly have been delivered earlier. You said I can't say because she didn't have an IUPC in when she should have.

A Yes.

Q Once she had the IUPC inserted, is it your opinion that Kelly Fiktus should have been delivered by C-section earlier than she was?

A Same thing. At that point in time, when they insert the pressure catheter, they should have also inserted a fetal scalp electrode, they should have stopped the Pitocin. They could restart the Pitocin in a much lower dose. But if hyperstimulation and/or hypertonus recur at a much lower dose, two decision points, again, either labor, no Pitocin; or do a C-section. It has to be one or the other.

Q At that point in time when the decision -- you're saying you would have two options: Labor without Pitocin or C-section?

A At that point in time.

Q What point in time are you referring to?

A Well, you asked me when the pressure catheter was placed. I want to make it clear, I'm not

saying if they did it at -- if they put the pressure catheter in at 1600, and put the scalp electrode in, and did what I say the standard of care -- I'm not saying they met the standard of care at that time. They should have done it three hours earlier because we had three hours of continuous hyperstimulation and hypertonus that contributed to the development of the Bandl retraction ring.

Q Are you able to say, with any degree of certainty, as to when injury occurred to Jacob which resulted in his cerebral palsy?

A When the retraction ring occurred.

Q Are you able to say, with any degree of certainty, as to when the retraction ring occurred?

A Well, I can say this with a fair degree of medical certainty. If the doctors and the nurses would have inserted the internal monitors at the appropriate time, no later than 2:00, they would have determined that there's hyperstimulation and hypertonus. And had they acted accordingly, it's my opinion, even at that point in time, the ring had not developed.

Now, the longer this process goes, the

more likely the ring is going to develop. And because we don't have X-ray vision, I can't say exactly when the ring developed. You can't see inside the patient. But we know that it's a result of an obstructed labor, or excess uterine activity.

Q Doctor, I'm going to go back to my original question. You see the records before you as to what occurred in this labor, both with the mother's contraction pattern and the fetal heart tracing.

Based upon that evidence before you, is it your opinion that based on what was occurring, Kelly Fiktus should have been delivered, before the time she was, by cesarean section?

A I thought I answered that.

Q I didn't get an answer.

A Let me -- I'll reiterate what I just said. The standard of care for the doctors and the nurses is to, at least by 2:00 p.m. in the afternoon, to insert the pressure catheter and the fetal scalp electrode. That's the standard of care.

Had they done that, it's my opinion they would have seen that there is uterine hypertonus and would have affirmed what the external

monitor showed, that there is uterine hyperstimulation.

Seeing that, they should have discontinued the Pitocin. And the option at that point in time would have been to restart the patient on a very low dose of Pit, or oxytocin; or deliver her by cesarean section, or allow her to labor spontaneously without Pitocin.

Q All right.

A The fact that they continued the Pitocin is what caused the pathologic retraction ring. Had they did the appropriate things at 2:00, we would never have gotten to the point in time that the ring developed.

Q Again, I appreciate what you're saying. And you've added your analysis of causation with respect to you think the Bandl ring occurred after 2:00 and, therefore, none of this problem would have occurred, in your opinion.

But, again, we see what did occur. You do agree with me that the Pitocin was stopped and was started and stopped three times. You agree with that?

A Yes.

Q Okay. So you've indicated that the IUPC and the

fetal scalp electrode should have been placed earlier than what they actually were. That's your testimony?

A Much earlier, yes.

Q But you do agree that a decision was made to stop Pitocin for a period of time, the first time. And let's go to that.

When is that first time? 13 -- or 1730. Do you see that?

A Yes.

Q Okay. So the Pitocin is turned off at that time, correct?

A At 1730.

Q And, by the way, let me just ask you a couple questions about Pitocin while we're talking about this topic.

Was it appropriate to start Kelly Fiktus on Pitocin when she was first started at 1355?

A Yes.

Q Do you have any quarrel with the dose at which she was started?

A No.

Q Agree that's a low dose?

A Yes.

Q And you agree that low dose regimens have been

associated with lower incidents of uterine hyperstimulation?

A Yes.

Q And certainly each patient's reaction to oxytocin augmentation is different. You would agree with that, wouldn't you?

A Yes.

Q Once the administration of Pitocin is stopped, how long usually does it take until the Pitocin no longer has an effect?

A Well, there's a half life, a very short half life. But depends on the dose that was given at the time and also depends on the individual patient.

Technically, a half life is three minutes but the activity may continue, the uterine activity caused by the Pitocin may continue for a much longer period of time after that.

Q Do you agree that if it's necessary to discontinue Pitocin it may be restarted once the fetal heart rate and uterine activity return to acceptable levels?

A Yes.

Q Do you believe there was a breach in the standard of care regarding the administration of

Pitocin in this case?
A Yes.
Q How, in particular?
A I'm not critical of the fact that Pitocin was initiated. I'm not critical of the initial dose. But I am critical of the nurses and the doctors continuing the Pitocin when there is evidence of uterine hyperstimulation and even later on uterine hypertonus.
Q So the Pitocin was turned off at 1730, as we've talked about. Was it inappropriate after 1730 to turn it back on?
A Well, I'm not saying because they turned the Pitocin off at 1730 they met the standard of care.
Q I understand. I understand.

But at 1730 it was turned off, correct?

A It was turned off, but I'm not saying that met the standard of care. It would have been turned off much earlier than that.
Q I understand.

But once it was turned off, do you have -- I want to know what your thoughts are regarding turning it back on, which was at 1830.

A At 1830 they should not have restarted Pitocin.

Q Why?
A Because we have had hours and hours of uterine hyperstimulation. We have had fetal bradycardia episodes from that. The patient was not making progress. This is a premature baby.
Q Okay.
A The better route is, and standard of care mandates, that the patient be delivered by cesarean section.
Q I think we're getting back to the question that I had originally asked you.

My question was: Based upon the records you have in front of you, is it your testimony that there was a point at which Kelly Fiktus should have been delivered by C-section at a different time than what she was?
A There's a point, but the point is it doesn't meet the standard of care. They should have done it hours earlier.

MR. MISHKIND: You're right, Doctor. But what she's saying is forget about what they should have done earlier.

MS. ROLLER: Absolutely.

MR. MISHKIND: Is there a point that a C-section should have been done given

what they did or didn't do before that?

MS. ROLLER: Right.

MR. MISHKIND: Correct?

MS. ROLLER: Right.

Q Based on this record.

A That's when they turned the Pitocin off the first time. It should not have been reinstituted. They should have delivered her by cesarean section at that point in time.

Q All right. You had told me earlier that you feel that the options would have been to turn the Pit off and permit spontaneous labor or C-section; is that correct?

A Are we talking about at 2:00 or 1400 in the afternoon?

Q I want to talk about when they turned the labor -- the Pitocin off, which was at 1730.

A At that point in time the only option is to do a cesarean section.

Q Is it your testimony that a cesarean section should have been performed before 1730?

A Yes.

Q When do you think a cesarean section should have been done in this case?

A Well, I'll give you the same answer as I did

previously. At 1400 in the afternoon, they should have put the internal monitors in and more likely than not we would have seen hyperstimulation, hypertonus even if they restarted Pitocin at a very low dose.

And probably at that point in time, somewhere around 2:00, or maybe from 2:00 to 3:00, the decision should have been made to do a cesarean section. It depends on what showed up after they turned off the Pitocin and did those other things outlined earlier.

Q Okay. So that I understand, at that point in time you're saying the IUPC and the fetal scalp electrode should have been placed. When do you think the decision for C-section should have occurred?

In other words, if they had been inserted at the time you think they should have, which is about 2:00, what readings would you believe it would indicate the need for C-section at that time?

A If they did that at 2:00, they should have discontinued Pitocin and then they could have restarted the Pitocin at a lower dose. But it's my opinion that even at a low dose, we would

have a return of hyperstimulation and hypertonus even if they gave her a half milliunit.

And at that point in time, and that could have been at 2:30, or 1430 or 1500, they would probably have seen a need to do a cesarean section because recurrence of the hyperstimulation and hypertonus.

Q So it's your testimony that there was hypertonus and hyperstimulation occurring at 2:00. If they stopped the Pitocin, if they had the IUPC in, the fetal scalp electrode in place and saw it recur, a C-section should have been done at that time?

A Yes.

Q Okay.

A And the only other option is, as I said, they could see if she would labor spontaneously without the use of any obstetrical agent. But more likely she probably would not have labored.

Q How long would you have let her go, without showing signs of progress, if she had labored without Pitocin, stopping the Pitocin at about 2:00?

A If there's no increased uterine activity and the fetal heart rate is suitable, several hours.

Q What's "several hours"?
A Two, three hours, see if she made any progress.
Q Okay.
MS. ROLLER: Let's take a break.
MR. MISHKIND: Take a couple-minute break, Joe.
(Recess taken.)
MS. ROLLER: Can you read back the last question?
(Record was read.)
Q Doctor, Kelly Fiktus was a private patient on Dr. Kiwi's service; is that correct?
A Yes.
Q And Dr. de Mola was part of that service?
A That's my understanding.
Q Who had the ultimate responsibility to make the decision of when to have a C-section on this patient?
A The attending physicians, either Dr. Kiwi or Dr. Loret de Mola.
Q Could a C-section have been performed on Kelly Fiktus without either Dr. Kiwi or Dr. de Mola's approval?
A Probably not.

Q Okay. Does uterine hyperstimulation occur at times in the absence of Pitocin?
A Yes.
Q What are some other reasons for the development of uterine hyperstimulation in a patient?
A Unknown etiology. Other drugs with oxytoxic properties, methergine, cocaine.
Q Does it occur without the use of any medication at times?
A Yes.
Q How frequently does uterine hyperstimulation occur in patients?
MR. MISHKIND: With or without?
Q Let's break that down. Let's say first without oxytocin, or oxytocin agents.
A It would be very unusual.
Q And can you give me any sense of how frequently that would be other than to say "very unusual"?
A Absent placental separation or abruption, it would be very unusual to see uterine hyperstimulation other than maybe an isolated episode or two.
Q And how about when a patient does take oxytocin or is on oxytocin augmentation, how frequently does uterine hyperstimulation occur?

A I don't think there's any dose. Frequently it's dose-dependent, patient-dependent.
Q You would agree with me at all times Kelly Fiktus was on a low dose of Pitocin?
A Yes.
Q How do you know that Kelly Fiktus' uterine hyperstimulation wasn't caused by the -- by a naturally occurring Bandl ring?
A Because prior to the initiation of Pitocin, on a strip it will not appear to be uterine hyperstimulation.
Q Do you have any other reason other than that?
A Well, more less cause and effect. A drug is initiated, it's known to increase uterine activity. And a complication of administration of Pitocin is uterine hyperstimulation or hypertonus. I mean, it's pretty clear.
Q You would agree that a Bandl ring can occur in cases where the patient has not been taking Pitocin?
A Yes.
Q And do you have any knowledge about the rate of incidents for that situation?
A I have not seen any rates quoted.
Q One way or the other, whether a Bandl ring --

how frequently it occurs when a patient has taken Pitocin as opposed to when the patient hasn't taken Pitocin, do you have knowledge or information on either one of those categories?

A Well, only what's inferred in that.

Q That one article?

A That one article I gave you that is associated with use of Pitocin.

Q That was one of four situations where it has been thought to occur?

A Yes.

Q I'm just going to run down some things, Doctor.

Do you agree that transient and repetitive episodes of hypoxia, a hypoxic event at the level of the central nervous system, are extremely common during normal labor and are generally well tolerated by the fetus?

A Yes. Let me just clarify. Are you talking about a term fetus?

Q You would agree with that with respect to a term fetus?

A Yes.

Q What about with a preterm fetus?

A Preterm fetuses are, in general, more susceptible.

Q With respect to that topic that I just described, can you put any figures or numbers or percentages on that?
A No. I think the literature just seems to indicate they're more susceptible, more susceptible than term infants, for example.
Q Would you agree that each time you made reference to bradycardia occurring in the fetal heart rate tracings for Jacob Fiktus, that subsequent to those episodes, accelerations in the fetal heart rate were seen?
A Yes.
Q And the accelerations in the fetal heart rate are virtually always reassuring and almost always confirm the fetus is not acidotic at the time?
A Yes.
Q Do you agree that an acceleration before or after a variable deceleration is seen only when the fetus is not hypoxic?
A That's a controversial point. I have seen literature that suggests that elevation in the fetal heart rates are reassuring with a variable deceleration. And I've seen articles that say they are not reassuring.

Q So it's controversial?
A Yes.
Q Going back to what we were saying, I just want to make sure, again, I understand your testimony.

From looking at the tracings, is there any point in time when you believe, just looking at the tracings, that a physician should have determined that an immediate C-section was warranted?

A Just looking at the tracings?
Q Yes.
A And not looking at any other factors?
Q Yes, sir.
A No.
Q Then let me ask you the same thing with respect to the contraction pattern shown for Kelly Fiktus.

Is there any point in time, looking at that contraction pattern, that you believe that a physician should have said, "We need to have an immediate C-section"?

A Just looking at contraction pattern?
Q Yes, sir.
A No.

Q A fetal scalp electrode was placed in this patient, correct?
A Yes.
Q What is it about the evidence in this chart that you believe that it should have been placed earlier, the fetal scalp electrode?
A It's my opinion, when Pitocin is being given, that the fetus needs to be monitored directly, when feasible, with a scalp electrode, and the uterine activity should be monitored with intrauterine pressure catheter, particularly when there is evidence of uterine hyperstimulation or uterine hypertonus. Because in those situations, the baby is more likely to show nonreassuring heart rate patterns. The most precise way of determining if a fetus is not hypoxic is to look at a short-term variability, which only can be looked at using a fetal scalp electrode.
Q With respect to the management of this patient's labor, is there any particular text that you would rely on to support the opinions you've stated with respect to, for instance, monitoring the fetus, fetal scalp electrode, placement of the IUPC?

A I think probably Williams Obstetrics had a chapter or so on fetal monitoring that would support it. Probably the one I cited to you from Awhonn, A-W-H-O-N-N, the Fetal Heart Monitoring Privileges, Principles and Practices would also have information concerning that particular issue.

Q That was A-W-H-O-N-N?

A Yes.

Q How about with respect to management of the uterus when uterine hyperstimulation and hypertonus occurs, what text would you rely on for guidance?

A Probably the same ones that I gave you, plus there may be several ACOG technical bulletins on that point.

Q Okay.

A There's an ACOG technical bulletin on induction of labor, there's a bulletin on fetal monitoring. Those would be two additional sources.

Q I think you've already stated that you do not believe that Jacob Fiktus, as a fetus, was exhibiting signs of hypoxia which were sufficient to indicate an intrapartum event

capable of causing cerebral palsy?
A That's correct.
Q And you've also said that you do not believe that there was evidence from the fetal heart rate tracings to indicate a prior need for C-section until the time the C-section actually did occur?
MR. MISHKIND: Objection.
A I believe you asked me to look in isolation only at a fetal heart rate tracing, just looking at heart rate tracings, nothing else. It's my opinion there was no indication to do a C-section other than when it was done. That he was out a lot of other findings.
Q Specifically the contraction pattern?
A That, plus the fact that we're dealing with a premature baby. And the other historical risk factors previously, premature baby, patient had been in the hospital for 24 hours prior to initiation of Pitocin. All these things.
Q But you would agree with respect to determining the timing of a C-section, you do not consider time as a factor until the patient has reached the active phase of labor?
A No, that's not necessarily true. You have to

look at the fetus -- you can have fetal strips and the patient's only two centimeters dilated. You can have a nonreassuring heart rate tracing and a patient not even in labor.

Q I appreciate that.

So let's take the situation other than showing a fetal heart rate tracing that is nonreassuring. You don't consider time as a factor for having a C-section until the patient has reached the active phase of labor?

A In general you're asking me?

Q In general.

A In general, no. But you have to look at specific cases, for example.

Q Was that in general, no, or were you agreeing with me?

A In general, that's true.

Q Okay.

A But under certain other specific situations, like prolonged premature ruptured membranes, you don't want to wait too long; patient gets infected, if there's a breech presentation in the patient in labor, you don't want to wait hours and hours before you do the C-section. I mean, those specific situations.

Q Did any of those occur here?
A We did have premature ruptured membranes. And as time was passing -- she ruptured in the morning, but we wouldn't want her to have prolonged ruptured membranes more than 18 hours because then the fetus would be at increased risk of an infection.
Q There was no indication of infection, though, was there?
A No.
Q I don't need, then, to ask you about ACOG's recent report regarding the four criteria for -- that establishes -- four criteria were established for causation from hypoxia and an intrapartum event as the cause of cerebral palsy.
A That's not applicable here.
MR. MISHKIND: Saved an entire page of questions.
MS. ROLLER: It certainly did. It certainly did.
Q I am cutting out a lot, so let me just take a moment here, Doctor.
Do you have criticisms, specific criticisms of the residents in this case,

Dr. Wang, Dr. McHugh?

A The same criticisms that I have for the nurses and the attendings also apply to the residents. Remember I told you the nurses and the doctors, the attending physicians, have independent duties? Also the residents have an independent duty to the patient.

Q All right. And specifically, then, so that before I leave I know what you are specifically saying how they breached the standard of care, tell me how the residents, and I understand you're saying it's the same for the nurses and the attendings, tell me --

A Same thing. I mean, to save time, it's exactly the same thing.

At 1400 in the afternoon, the residents who were following this patient, Dr. Wang, Dr. McHugh, should have realized that there's hyperstimulation and did the appropriate maneuvers, the application of internal monitors, all of that that I went into great detail --

Q Yes.

A -- prior.

Q You think the IUPC and the fetal scalp electrode should have been placed?

A Yes.
Q And it would have led to the scenario --
A And they should also discontinued the Pitocin.
Q Okay.
A And then with the residents, they also had a duty to report to their superiors, which would be Dr. Kiwi, Dr. --
Q De Mola.
A -- de Mola.
Q Do you have any evidence at all that the nurses and/or residents did not report their findings to one of the attending physicians?
A No. The attendings were in-house.
Q At one point we know Dr. Kiwi left and Dr. de Mola took over?
A Yes.
Q Okay. Have you told me all of the conduct in this case that, in your opinion, breached the standard of care?

MR. MISHKIND: Let me just show an objection to the general question. I think he's answered your question -- let me just finish. I'm not saying that he hasn't given you the answers because every conduct, I mean, there may be some derivation that I ask, but note my

objection.

You can go ahead and answer the question.

Q Before I leave, I want to know what you're saying the nurses and residents did that breached the standard of care.

And you've told me that at 1400 they should have done some things that were not done, specifically placed the IUPC and the fetal scalp electrode. And, as a result, you think certain things would have happened. And you have not told me anything more specifically with respect to their conduct afterward.

MR. MISHKIND: Well, objection. I don't think that's quite an accurate statement, but go ahead.

Q I say that to the extent I am not aware of any other specific conduct after 1400 that you are critical of other than the fact they didn't do certain things back at 1400 hours.

MR. MISHKIND: Objection.

Q Go ahead.

A I think I gave you all my opinions concerning that.

Q All right. Well, Doctor, if you have any new or modified opinions between now and trial, I'd ask

that you notify Attorney Mishkind so he can communicate those to me. Will you do that?

A Yes.

Q Otherwise, is it fair for me to assume that the opinions you expressed here today cover the opinions you will express at trial?

A Yes.

Q All right.

MS. ROLLER: Joe, with that.

MR. MISHKIND: Joe, before you begin --

MR. FARCHIONE: Yes.

MR. MISHKIND: First, I want to make sure you're still there, and you are, correct?

MR. FARCHIONE: Yes, sir, I am.

MR. MISHKIND: Let me just note on the record that obviously I have not had an opportunity to depose Dr. Kiwi. And I don't know, even as we're sitting here now, whether we have a date and time firm between our offices.

MR. FARCHIONE: We do.

MR. MISHKIND: I'm sorry?

MR. FARCHIONE: We do.

MS. ROLLER: Could you tell

me when that is?

MR. FARCHIONE: I don't know off the top of my head. My computer is off.

MS. ROLLER: The reason -- and I do want this on the record. I have asked that I be kept in the loop on the timing of these depositions. Dr. Weinstein's deposition was set at a time that I am not available. In that situation, being as it is, I can send someone else, but Dr. Kiwi's, I must be present.

MR. MISHKIND: Do you know when that is, Joe? All I knew was that --

MR. FARCHIONE: Let's just get to the point of it so we can get the doctor out of there.

MR. MISHKIND: Sure. That's fine. I'm just noting an objection on the record. And to the extent that when I take his deposition, if there's additional information that I gather from the deposition, which obviously I've not been able to provide to Dr. Cardwell, to the extent that it modifies or adds to his opinions, you'll be the second person to know, okay?

MR. FARCHIONE: Well, I'll just

put on the record also that it was my understanding Dr. Kiwi was not going to be in the case and, in fact, Dr. Cardwell's report has no criticism of Dr. Kiwi. So right now is the first time that I heard criticism of Dr. Kiwi in this case. So we'll explore that with the doctor right now.

MR. MISHKIND: But, Joe, I think you would agree that I have been requesting Dr. Kiwi's deposition for quite some time.

MR. FARCHIONE: I would agree with that. And you would also agree you've indicated that the criticism was going to be after Dr. Kiwi left and not before. And that's reflected in Dr. Cardwell's report.

MR. MISHKIND: Well, it all depended upon what I learned from Dr. Kiwi as to whether or not he was or was not going to be a party at the time of trial, and I've indicated that to you.

EXAMINATION OF MICHAEL S. CARDWELL, M.D.

BY MR. FARCHIONE:

Q Dr. Cardwell, this is Joe Farchione. Can you hear me okay?

A Yes.

MR. MISHKIND: Joe, are you there?

MR. FARCHIONE: I'm waiting to hear from the doctor.

MR. MISHKIND: He said yes to your question.

MR. FARCHIONE: I said, Why is there no criticism in his report of Dr. Kiwi?

MR. MISHKIND: Oh. We didn't hear that, and the court reporter didn't hear it either.

MR. MISHKIND: You must have blanked out.

MR. FARCHIONE: I'll do it this way.

Q Doctor, can you hear me okay?

A Yes.

Q Here's the question, Doctor. Why is there no criticism of Dr. Kiwi in your report?

A At the time I did my report, October 23rd, I did not have his deposition available to me.

Q You did not have his deposition and, therefore, you had no criticism of him?

A At that point in time.

Q So I take it that it would be fair to state, based on the medical records, what you did review, at that time you had no criticism of Dr. Kiwi?

A No. At the time I was not certain of when the various doctors switched, as far as care of the patient is concerned. I think the medical records are more or less -- I'm not saying incomplete, but the medical records did not indicate when the shift from Dr. Kiwi or Dr. de Mola occurred.

Q Well, you read Dr. de Mola's deposition, did you not?

A Yes.

Q Did you read it in its entirety?

A Yes.

Q Read it carefully?

A I read it carefully, but I also read six other depositions and I don't have them all memorized.

Q I understand.

But there were two attendings involved in this case, correct?

A Yes.

Q You understood that at the time you wrote your report, correct?

A Probably not completely because I did not have the other attending, Dr. Kiwi's, deposition.
Q How do you know there were two attendings today then?
A Because since that time I've been provided other depositions and other medical records, and a re-review indicated to me that, after looking at all these other materials, that Dr. Kiwi was involved until he left, I believe, some time in the afternoon, 5:00 or so.
Q Well, Doctor, in your report of October 23, 2002, you say you've reviewed various depositions, correct?
A Yes.
Q What depositions, what various depositions did you review?
A I believe I reviewed, at the time, the deposition of Mary McHugh, M.D., Dr. de Mola, and I believe the -- and Dr. Wang, and maybe the nurses.
Q Just a second. Dr. Kiwi is mentioned 11 times in the deposition of Dr. McHugh. Did you miss the 11 times that he was mentioned in there?
A As I said, I don't recall specifically every deposition. I read all the information. I read

several -- lots of depositions.

Q Well, obviously it would be very important to know who the attending physicians were in this case, would it not?

A Yes. But it's obvious the purpose of this discovery deposition is to get all my opinions. And I am not held to the opinions in my letter of October 23rd, true?

Q Is that a legal opinion or a medical opinion, Doctor?

A Take it either way you want to.

Q Well, Doctor, I took it you were asked to write a report that reflected all of your opinions in the case, correct?

A All my opinions that I had at that point in time with the materials I was asked to review.

Q And we can certainly agree that Dr. Kiwi is not mentioned in the October 23, 2002 report, correct?

A Yes.

Q Have you filed or given Mr. Mishkind a subsequent report that talks about your criticism of Dr. Kiwi?

MR. MISHKIND: Joe, I'll stipulate he hasn't done that. The report says

what it does, and I do not have any supplemental report from him.

MR. FARCHIONE: Okay.

Q Doctor, when did you develop this opinion about Dr. Kiwi?

A Probably after I wrote my October 23, 2002 letter.

Q When after the October 23, 2002 letter?

A I can't be more specific than that.

Q What other information did you obtain that caused you to think, Wait a minute, there's a Dr. Kiwi involved in this?

A I received other depositions, as I mentioned, prior to that, and other medical records.

Q What other depositions did you read -- or receive, rather?

A The plaintiffs, Dr. Friedman. Those.

Q And it was from those depositions that you found out there was a Dr. Kiwi involved?

A No.

Q Where did you get the information about Dr. Kiwi?

A What information?

Q What I'm trying to find out what stimulated your mind to think about Dr. Kiwi, or what brought to

your attention that there was a Dr. Kiwi involved following the October 23, 2002 letter from --

A From my review of additional materials and re-review of the records.

Q The re-review of the records and review of additional materials. The additional materials were the depositions of the parents, correct?

A Yes.

Q Dr. Friedman?

A Yes.

Q Was it based on the review of those depositions that you found out that Dr. Kiwi was involved?

A No.

Q What subsequent records?

A I received records, including letters, from Dr. Friedman, records of the baby after delivery.

Q So could you tell me which one of the records you were going through is the one that told you that Dr. Kiwi was involved?

A Well, I can't tell you that. I knew Dr. Kiwi was involved. I didn't have his deposition. When I did my preliminary report of October 23rd, I did not include him. Subsequently,

after reviewing the records and reviewing the records and reviewing the other materials, I came to a conclusion that he is also negligent.

Q What is your understanding, based on the records, then, of Dr. Kiwi's involvement?

A He was her attending physician until about 5:00 or 5:30, 1700, 1730 the day of delivery.

Q And your opinion, as related to standard of care, specifically for Dr. Kiwi, is what?

A More or less exactly what I told the other attorney, but I will reiterate.

Q You don't have to reiterate. It's the same thing you already said?

A Yes.

Q At the time you had specified before, measures should have been taken to stop the Pitocin and monitor the child more closely with a fetal scalp electrode?

A At 2:00, or 1400 in the afternoon, yes.

Q Doctor, if this child had been delivered at 10:00, do you have an opinion, to a probability, whether the outcome would have been different?

A 10:00 p.m. that night?

Q Yes.

A In my opinion, the outcome would have been the

same.
Q If this child had been delivered at 9:00 p.m. that night, would the outcome have been different, to a probability?
A Probably the same.
Q As we go back, is there a point in time where you can state, to a probability, that the outcome would have been different?
A No. Because as I told the other attorney, it takes a period of time, and it is progressive, for the Bandl retraction ring to develop and to have the adverse effect on the fetus.
Q So if I were to ask you at 5:00 p.m., Doctor, to a probability, if the child was delivered right then and there at 5:00 p.m., would the outcome have been different, you would not be able to answer that question?
A That's correct.
Q At 4:00 p.m., if I were to ask you, to a probability, would the outcome be different, you would not be able to answer that question?
A You're correct.
Q What about 3:00 p.m., Doctor, to a probability, would the outcome have been different if the child had been delivered at that time?

A In my opinion, yes. And I said this previously. I said if the baby was delivered by a C-section within a couple hours after the initiation of the hyperstimulation and the hypertonus, more likely than not there would not have been a Bandl retraction ring.

Q So it's that two-hour window, between 2:00 in the afternoon and 4:00 p.m. in the afternoon, where we reach that point of no return?

A No. That's not what I said. All I said is if the patient was delivered by C-section by that time, --

Q Right.

A -- it's my opinion that it would not have been a retraction ring. That's all I can say.

Q You can't say whether the outcome would have been different?

A If the baby had been delivered by 3:00 or 4:00, the outcome would have been different. I can't say after that time, however.

Q Okay. After 4:00 you can not say, to a probability, if this child had been delivered by section we would have a normal child today?

A That's correct.

Q What was Dr. Kiwi's, at least based on the

records and the depositions you've read, involvement between 2:00 and 4:00?

A He was the attending.

Q Do you know, based on these records, if he had any involvement directly with the patient during that time frame?

A Well, he was in-house at the time, so I assume he had direct involvement. It was a private patient.

Q Well, I understand that. But if you have a private patient and you're in-house, are you required to see that patient every half hour?

A No.

Q You can rely on the residents and nurses to report abnormalities that are going on?

A Well, you can delegate that responsibility, but ultimately you are responsible.

Q Sort of the captain-of-the-ship argument?

MR. MISHKIND: Objection.

A No. A delegation argument. If you're going to delegate the responsibility, which is appropriate, you also take the responsibility of any of the outcome.

Q So let's say you examine a patient at, hypothetically, 1:00 and you leave to make

rounds. The nurses are keeping track of what's going on but they miss a pattern of late deceleration. You come back at 4:00, see the late deceleration and order cesarean section.

Are you, as the obstetrician, responsible for the nurse's failure to see the late decelerations?

A Am I in-house or do you have to leave the hospital?

Q You're doing rounds in the hospital.

A If I'm in the hospital, I would be responsible. If I'm not, I would not unless there was something pre-existing.

Q How can you be responsible just because you're in the house, if you're off making rounds between 1:00 and 4:00, and the nurse fails to pick up a pattern of late decelerations?

A Because Dr. Kiwi was the --

Q I'm talking in general. I'm talking in general.

A It depends if you are required to be in the house. If you are paid to be in the house or if you are to supervise residents in the house, you are responsible for things that occur during your watch.

If you're a private attending and you're

not required to be in the house, you can rely upon the nurses and the residents to give you adequate information, assuming there was no pre-existing, nonreassuring event occurring, to your knowledge, prior to your leaving the hospital.

Q And prior to 2:00, we do not have any such event in this case, do we?

A No.

Q Now, this was a private patient of Dr. Kiwi and his group, correct?

A Yes.

Q So in terms of relying on the nurses, if I understood what you just said, he would have the ability to rely on the nurses and if an error was made by the nurse, which I'm not saying one was, but if an error was made, then Dr. Kiwi would not automatically be responsible for that?

A No. That's not what I said previously. Dr. Kiwi was the in-house physician. He was required to be in-house until 5:00, 5:30 or so.

Q Okay.

A He would then be responsible. It's a different situation.

Q I guess I don't understand. Are you saying that

an attending, in order to be on the safe side, would have to be with the patient the entire time she is in labor?

A No. Let me explain it to you again. It's one thing to be a private attending and have a private patient and not be directly responsible for supervising their in-house residents as opposed to being required to be in-house for a specified time period. That's two different situations.

Q Well, is it your understanding that Dr. Kiwi or Dr. de Mola were supervising the residents during this time frame?

A Yes.

Q So it's your position that whether they're standing there at bedside, or they're delivering another patient, or checking on another patient, whatever happens in that room is their responsibility?

A Yes.

Q So if they're delivering another patient and a resident or a nurse breaches the standard of care, then automatically Dr. Kiwi or Dr. de Mola would be below standard of care?

A Well, you have to give me more specific

information. I mean, there can be a blatent violation of a standard of care by a nurse or the resident which is outside the usual conduct of medical care in which the attending certainly wouldn't be responsible for.

Q Well, let's say failure to recognize patterns of late decelerations. Dr. Kiwi or Dr. de Mola are performing a delivery that takes about an hour, which I believe is what it took you to get to the hospital and back here today, if they're doing a delivery during that time frame and the nurse fails to pick up a pattern of late decelerations, or a resident fails to pick up a pattern of late decelerations, are Dr. de Mola and/or Dr. Kiwi automatically responsible for that?

A Yes.

Q Doctor, do you deal with residents?

A Yes.

Q How often?

A I have one assigned to me every day, same one for a month; and my office, and they also go to the hospital to help me do deliveries, C-sections, or other surgical procedures.

Q Do any of the lawsuits that have been filed

against you involve allegations of the residents also, negligence for the residents also?

MR. MISHKIND: Objection.

A I can't tell you one way or the other.

Q For Dr. de Mola, what is your understanding of his involvement with the patient? What specifically did he do?

A He became the attending after Dr. Kiwi went off call.

Q Okay. Do you have any criticism of him, his conduct when he arrived at 1940, took a look at the strips and what he did following that?

A Well, when he came on duty, he should have realized, after reviewing the strip and the course of the patient in labor, that Pitocin should have been discontinued and the patient should have been delivered by cesarean section.

Q That wasn't my question. My question was: Do you have criticism of what he did from 1940 on?

A I thought I gave you my criticism.

Q I want to make sure that it's absolutely clear, Doctor. From 1940 on, you have no criticism of what Dr. de Mola did?

MR. MISHKIND: Objection. I think he's just answered it, Joe.

MR. FARCHIONE: He's not answered that question directly, Howard.

MR. MISHKIND: I'm sorry?

MR. FARCHIONE: He's not answered that directly. He's criticized him for 5:00 when he came on. I'm asking from 1940 on. I want to make sure he has no criticism of that. I'll reask the question.

Q Doctor, do you have any criticism of what Dr. de Mola did from 1940 on?

A Yes.

Q What is that criticism?

A Well, first of all, he came on call, I believe, and you can correct me, around 5:00 or 5:30 in the afternoon; is that right?

Q That's not my question, Doctor.

MR. FARCIHONE: Could the court reporter please repeat that? I'm concerned with the time frame of 1940 on.

A I'm trying --

MR. FARCHIONE: So, Court Reporter, can you please repeat it?

A I know what the question is. I'm trying to answer the question very clearly. He violated the standard of care when he came on duty and

it's a continuing violation up until the time the patient is delivered.

Q At 1940 he comes in. What action does he take, Doctor?

MR. MISHKIND: You can take a look at the record if you want to.

A At 1940 he comes in, examines the patient, he places a fetal scalp electrode.

Q That was standard of care to do that?

A At that time?

Q Well, I understand you think it should have been earlier, but given he put it on, at that time that was appropriate to do that?

A Yes.

Q Go ahead.

A But he should have done it when he came on call.

Q Continue on, Doctor.

A You asked me a question in the meantime. What was the original question?

Q The original question was: What is your understanding of what Dr. de Mola did from 1940 on?

A At 1940, just to reiterate, he placed a scalp electrode. He, I guess, approved that there was an epidural. There was conversation of an

amnioinfusion but it was never done. And he was going to monitor the patient carefully.

A little later on, the fetus had episodes of bradycardia. Dr. de Mola did a scalp pH and his plan was to proceed with amnioinfusion and low dose Pitocin.

When he did a scalp pH and it came back 7.15, he decided to do a stat cesarean section on the patient.

Q If those events you've just outlined had taken place beginning at 5:00, would you have any criticism of Dr. de Mola?

A No.

Q What was causing the abnormal strips beginning around 10:00 p.m. and what we're seeing around that time?

A Umbilical cord compression.

Q Did you hear that, Doctor?

MS. ROLLER: He didn't hear you.

A Umbilical cord compression.

Q How does umbilical cord compression usually present on a fetal monitor strip?

A A drop from the baseline.

Q Variable deceleration?

A Yes. Or a bradycardia.
Q Bradycardia that is not preceded by variable deceleration?
A It can be, yes.
Q How does that happen, where you have a bradycardic event from a cord compression without variables before?
A It's a prolonged cord compression.
Q Would that mean prolonged contraction?
A It can be a prolonged contraction. It can be simply a prolonged cord compression between the baby and the uterine wall, or between parts of the baby and the umbilical cord.
Q Is that more likely to occur as the fetus descends as opposed to being high?
A It can occur any time.
Q When is it more likely to occur?
A It can occur any time. There's more variables if the patient is pushing in the second phase as the fetus is descending, but it can occur any time.
Q It can occur any time, but you would agree with me more often than not it occurs as the fetus is descending and pushing?
A Yes.

Q Would you agree with me, more often than not, compression or -- strike that.

Would you agree with me, more often than not, a cord compression presents as a variable deceleration rather than a deceleration -- or bradycardic event, rather?

A Yes.

Q Do all hyperstimulation situations require cesarean section?

A No.

Q Have women who will continue with a hyperstimulation and you will allow that labor to go forward if you cannot stop the hyperstimulation?

MR. MISHKIND: Joe, could you repeat the question? I think some of the words just got cut off.

MR. FARCHIONE: Sure.

Q If you have a laboring mom and there is hyperstimulation, and that hyperstimulation can not be reversed, do you allow her to continue to labor?

A Depends.

Q Depends on what?

A Depends on how far the patient is dilated at the

time, depends on the fetal heart rate tracing, depends on the gestational age.

Q Is there really that much of a difference between the gestational age of this fetus, which was, I think, between 34 and 35 weeks, and a full term?

A Yes. Six weeks premature.

Q How much of a difference does that make in terms of outcome? What are the statistics between the two?

A That's an overbroad question. What do you mean "outcome"?

Q Are there statistics out there that you're aware of that shows outcome of 34/35 weeks versus 38 to 40 week?

A Well, the more premature the baby, the more apt for the baby to have prematurity complications, including intraventricular hemorrhage, distress, hypoglycemia, high bilirubin, ischemia.

Q Intraventricular hemorrhage can occur in a premature infant absent a constriction ring or Bandl ring, correct?

A Yes.

Q What is the percentage of time that that can happen?

A Depends on the gestational age of the fetus.
Q 34 to 35 weeks.
A It would be unusual compared to, say, a 30-weeker or a 28-weeker.
Q How unusual at 34 to 35 weeks?
A I can't cite you specific statistics.
Q Where would I look to find those specific statistics?
A Probably in a neonatal textbook.
Q Volpe's Pediatric Neurology, would that be a source for it?
A Possibly. Maybe Avery's Neonatology textbook.
Q Any other neonatology textbook other than Avery's?
A There are others. I can't think of the names.

MR. FARCHIONE: I'm kind of going through notes here so I don't repeat anything, so I apologize for the silence.

Q I take it, Doctor, it's your opinion -- strike that.

Doctor, earlier in your deposition you had made a distinction between rings. And I think you said one was pathologic and I didn't catch what the other one was. What were you distinguishing?

A I was not making the distinction. I said that's one article. There's a distinction between constriction rings and pathologic retraction rings.

Q What is the distinction that's made in that article?

A Well, probably the best way to do this is just attach it as an exhibit because it's a large table.

MR. MISHKIND: Yes, I'll get you a copy of the article, Joe.

Q Do you have an understanding that you can give to me of the difference between the constriction ring and the pathologic ring?

A Well, according to this table, I can point out some major differences. For example, in a constriction ring, the uterus never ruptures. In a pathologic retraction ring, if uncorrected, the uterus may rupture. With a constriction ring, the fetus may be wholly or mainly above the ring. With a pathologic retraction ring, parts of the baby must be below the ring.

MS. ROLLER: Can we make a copy of that before we leave?

MR. MISHKIND: You have a copy

of it.

MS. ROLLER: Are you reading from portions that are not --

THE WITNESS: No.

MS. ROLLER: It's all contained in the copy that we have?

MR. MISHKIND: Yes.

MS. ROLLER: Just hold up the front of it so I can see what one that was. Thank you.

MR. MISHKIND: Sure.

Q I take it, Doctor, that with hyperstimulation and Pitocin, there's no way of predicting which patient will have a ring, which will not have a ring?

A Well, first of all, as I stated previously, and I read from Williams Obstetrics, it is rare to see a ring, retraction ring nowadays, unless the labor is neglected.

Q Neglected in terms of how long?

A Or obstructed.

Q Okay. Just so I'm clear, how do you define obstructed labor?

A How do I define it?

Q Yes.

A It's when there's no progress towards delivery and the cervix may not dilate beyond a certain stage, or the fetus may not descend beyond a certain station.

Q Had she reached that definition between 2:00 and 4:00?

A Yes.

Q What's the basis for that, please?

A She was admitted to the hospital the day before in labor, the labor continued. She had rupture of membranes about 9:30 in the morning. She was not making any progress so, therefore, the Pitocin was started.

And from the time the Pitocin was started until the time she was delivered, I believe she went maybe from two centimeters at 1:00 in the afternoon, and she was no more than four or five centimeters when the C-section was done in the evening.

Q What would you have liked to have seen between 2:00 and 4:00 to say she was making progress and would not fall into this obstructed labor definition?

A Well, first of all, I want to see no hyperstimulation and no hypertonus. And then I

would want to see the contractions occurring with a change and the effacement and the station, and dilatation.

Q What effacement, what station, what dilation would you want to see between 2:00 and 4:00 given how she had presented the day before and where she was at heading into 2:00, where would you have wanted to see her between 2:00 and 4:00?

A Well, this is her second baby. You would expect a patient, if the labor is progressing normally, a patient with her second baby would dilate, let's say, one to two centimeters an hour.

So in that two-hour period, you would expect the cervix to change at least about a couple centimeters. I would expect the cervix to also thin out, or efface more.

Q You're saying one to two per hour. What is the starting point for you?

MR. MISHKIND: I'm not sure I understand what you mean "the starting point," Joe.

Q If you're saying one to two per hour, is that when she was admitted to the hospital you want

to see that, or is that after the rupture of membranes?

A When she's in labor with the Pitocin, the Pitocin was started at 1300 and she was two centimeters at 1300 when the Pitocin was started. And at 1935, which is six, seven hours later, she's only three centimeters dilated.

Q I understand that. What I'm concerned about in that two- to four-hour time period, the 2:00 to 4:00, you indicated that at 1:00 she was two centimeters. What would you want to have seen on vaginal exam to be comfortable with her progress between 2:00 and 4:00?

A An increase in the dilatation by at least a couple centimeters.

Q What if she was examined at, let's say, 2:30 by the attending, what would you expect to see at 2:30, an hour-and-a-half after the two centimeters?

A At 2:30, if she's having adequate contractions, I would expect her, this would be in her second baby, for the cervix to be dilated maybe another centimeter.

Q Why did she not dilate?

A We don't know why she didn't dilate.
Q Why did she rupture her membranes prematurely?
A Because patients in premature labor tend to have premature rupture of membranes at some point in time.
Q The underlying cause of that being what?
A It could be mechanical from the uterine activity.
Q And in this case, do you have an opinion, to a probability, what caused the premature rupture of membranes?
A Probably the premature labor.
Q You had mentioned earlier that the Bandl ring contributed to the injury. What else contributed to the injury, to a probability?
A The cord compression.
Q I thought you said the cord compression, which would cause ischemia, hypoxia, did not cause any permanent injury to this child.
A No. I didn't say that. I said the hypoxia from the bradycardia did not cause any injury. Ischemia from cord compression, in a premature baby, can cause problems.

And I also mentioned previously I deferred specific causation of the baby's injuries to the

pediatric neurologist.

Q So as far as the relationship of the umbilical cord and ischemia, the ultimate injury you would defer on?

A Yes.

Q The only thing you can say to a probability is the Bandl ring contributed to the ultimate injury?

A Yes.

Q What is the half life of Pitocin?

A The other attorney asked me that already, but about three minutes.

MR. FARCHIONE: That is all I have at this time other than, Doctor, if you can give an updated CV to Mr. Mishkind, I'd appreciate that.

MR. MISHKIND: We have one as of three weeks ago that Jan marked as --

MR. FARCHIONE: She did mark that, okay. I didn't hear that. I've got one that goes back to January of 2002.

MS. ROLLER: Exhibit A.

THE WITNESS: That's the most recent one.

MR. MISHKIND: The one Jan

marked as an exhibit was from three weeks ago.

MR. FARCHIONE: Okay.

MR. MISHKIND: You'll either get that from Jan or it will be attached to the copy of the transcript.

MR. FARCHIONE: Very good.

MS. ROLLER: I have a couple other questions, Joe, if you're finished.

MR. FARCHIONE: Yes. Go ahead.

RE-EXAMINATION OF MICHAEL S. CARDWELL, M.D.

BY MS. ROLLER:

Q Dr. Cardwell, the labor of Kelly Fiktus, are you of the opinion that this was a neglected labor, as you use that term?

A Neglected in such that when the Pitocin resulted in hyperstimulation and hypertonus, there was negligence in the management. It was a neglected labor.

Q Neglect or negligent?

A I'm using them interchangeably. I'm not saying there's a difference.

Q Neglect and negligence, you're saying they're the same words?

A I'm using them interchangeably in this case. Neglect, negligence. Same route.

Q So your definition of a neglected labor is what? That was a term you used earlier and I just want to make sure I understand what you're saying. How do you define a neglected labor?
A Same as a negligent labor. It depends on the circumstances. If Pitocin is being used negligently, or if the patient is not being monitored appropriately, it's a negligent labor.
Q The reason I'm asking you that is because you would agree with me that this patient was monitored closely, wouldn't you?
MR. FARCHIONE: What was the answer?
MR. MISHKIND: She said, You would agree with me that she was monitored closely, wouldn't you?
A Not close enough. To be monitored closely, she would have had to have internals in place by 2:00 in the afternoon.
Q You think different things should have been -- different things should have happened, but I'm asking you with respect to the time and the attention, maybe not the decision-making, but with respect to time and attention, you would

agree with me that this labor was monitored closely?

MR. MISHKIND: I'm going to object to the question, but go ahead and answer if you can answer it.

A Monitored closely with the exception that the patient should have had internal monitors placed.

Q All right. I asked you earlier whether you felt this labor was either -- that it involved either a protraction disorder or an arrest disorder. And you said it did not?

A It did not because we do not have definitions for a preterm labor.

Q But you believe this was an obstructed labor?

A I did not say that.

Q Well, do you think it was?

A Remember I told you the reason -- I believe you asked me the reason the patient didn't deliver or make progress. I said either from a fetopelvic disproportion or a dysfunctional labor?

Q All right. But in your opinion, does Kelly Fiktus' labor qualify as an obstructed labor as you use that term and how you've defined it?

A I didn't -- it was not -- I did not say it was -- -- it was not an obstructed labor.
Q That is your opinion, it was not an obstructed labor?
A Correct.
Q Okay. I think we finally got it.
Doctor, in your opinion, what was the cause of the cord compression?
A Cord compression is usually from uterine contraction. It could be from compressing of the cord between the parts of the baby and the uterine wall, or from the uterus itself, or some other reasons. I don't know. It's umbilical cord compression.
Q So you don't have any specific cause that you assign for the cord compression that you believe occurred in this case?
A No.
Q And do you have an opinion as to what caused Kelly Fiktus' premature labor?
A No.

MS. ROLLER: That's all I have. Thank you.

MR. MISHKIND: Okay.

MR. FARCHIONE: Nothing else for

me.

MR. MISHKIND: Okay. We will read the deposition.

Let's see. We're four weeks from trial. Two weeks?

(No response.)

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THE STATE OF OHIO,) SS:
COUNTY OF CUYAHOGA.)

I, Marcie S. Smith, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that MICHAEL CARDWELL, M.D., was first duly sworn to testify the truth, the whole truth and nothing but the truth in the cause aforesaid; that the testimony then given by him was by me reduced to stenotypy in the presence of said witness, afterwards transcribed on a computer/printer, and that the foregoing is a true and correct transcript of the testimony so given by him as aforesaid.

I do further certify that this deposition was taken at the time and place in the foregoing caption specified. I do further certify that I am not a relative, counsel or attorney of either party, or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Cleveland, Ohio, on this 31st day of March, 2003.

Marcie S. Smith, Notary Public
within and for the State of Ohio
My Commission expires April 20, 2004.

THE STATE OF _____)
) SS:
COUNTY OF _____)

Before me, a Notary Public in and for said state and county, personally appeared the above-named MICHAEL CARDWELL, M.D., who acknowledged that he did sign the foregoing transcript and that the same is a true and correct transcript of the testimony so given.

IN TESTIMONY WHEREOF, I have hereunto affixed my name and official seal at _____ this _____ day of _____, 2003.

_____

MICHAEL CARDWELL, M.D.

_____

Notary Public

My Commission expires: _____

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