

1 STATE OF MICHIGAN  
 2 IN THE CIRCUIT COURT FOR THE COUNTY OF INGHAM  
 3  
 4 SAMUEL JOSEPH EDWARDS, by his )  
 5 Next Friend, JOSEPH LEE EDWARDS. )  
 6 and KAREN SUE EDWARDS and )  
 7 JOSEPH LEE EDWARDS, individually, )  
 8 Plaintiffs, )  
 9 -vs.- ) CASE NO. 96-82721-NH  
 10 PAUL A. KELLY, M.D., EDWARD W. )  
 11 SPARROW HOSPITAL ASSOCIATION, )  
 12 d/b/a LANSING OB-GYN ASSOCIATES, )  
 13 FRANK TAKYI, M.D., SPARROW HEALTH )  
 14 SYSTEMS, a Michigan Non-Profit )  
 15 Corporation, and GRADUATE MEDICAL )  
 16 EDUCATION, INC., jointly and severally, )  
 17 Defendants. )  
 18  
 19 Deposition of BRUCE L. FLAMM, M.D., F.A.C.O.G.,  
 20 taken by the Plaintiffs at 11043 Magnolia Avenue,  
 21 Suite 416, Riverside, California, commencing at  
 22 9:05 a.m., on Thursday, May 29, 1997, before  
 23 Denise R. Petersen, CSR #3833, pursuant to Notice.  
 24 Reported by: CHRISTOPHER & ROBBINS  
 25 Denise R. Petersen Certified Shorthand Reporters  
 3740 McCray Street  
 Riverside, CA 92506

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## PLAINTIFFS' EXHIBITS

NUMBER	DESCRIPTION	MARKED
1	Document entitled "Summary of Curriculum Vitae, Bruce L. Flamm, M.D., F.A.C.O.G."	94
2	Handwritten notes	94

1 APPEARANCES  
 2  
 3 For the Plaintiffs: Law Offices of  
 4 Samuel Joseph Edwards, SINAS, DRAMIS, BRAKE  
 5 Joseph Lee Edwards and BOUGHTON & MCINTYRE, P.C.  
 6 Karen Sue Edwards; 520 Seymour Avenue  
 Lansing, MI 48933-1192  
 By: BARRY D. BOUGHTON  
 Attorney at Law  
 7 For the Defendants: Law Offices of  
 8 Paul A. Kelly, M.D., KITCH, DRUTCHAS,  
 9 Edward W. Sparrow Hospital WAGNER & KENNEY, P.C.  
 10 Association, d/b/a Lansing One Michigan Avenue  
 11 Ob-Gyn Associates, Frank 120 Washington Sq. N.  
 12 Takyi, M.D., Sparrow Health Lansing, MI 48933-1609  
 13 Systems, a Michigan By: JOHN P. RYAN  
 14 Non-Profit Corporation, and Attorney at Law  
 15 Graduate Medical Education, Inc., jointly and severally:  
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BRUCE L. FLAMM, M.D.  
 having been duly sworn, testified as follows:

## EXAMINATION

BY MR. BOUGHTON:

Q Doctor, would you state your full name for the record, please?  
 A Bruce L. Flamm.  
 Q And your age?  
 A I'm 47.  
 Q And your profession?  
 A Obstetrician/gynecologist.  
 Q And your current employment?  
 A Kaiser Permanente Medical Center.  
 Q And what is your position with Kaiser Permanente?  
 A I'm partner/physician there.  
 Q And what does that mean?  
 A Generally speaking, if someone has the -- been with Kaiser Permanente for three years -- it used to be two years when I was involved with this -- if you pass certain criteria, you're admitted as a partner to the group.

1 for service?  
 2 A Salary.  
 3 Q How long have you been with Kaiser?  
 4 A Fourteen years.  
 5 Q And could you tell us what Kaiser Permanente is?  
 6 A Kaiser Permanente is a health maintenance  
 7 organization.  
 8 Q Is it one of the original health maintenance  
 9 organizations in this country?  
 10 A Yes, it is.  
 11 Q One of the earliest?  
 12 A Yes.  
 13 Q How large is Kaiser Permanente?  
 14 A In the State of California I believe Kaiser has  
 15 about six million members. We have other divisions  
 16 nationwide, but I think altogether they encompass  
 17 something like a million members.  
 18 Q So approximately seven million patients --  
 19 A I believe that's correct.  
 20 Q -- nationwide?  
 21 A Yes.  
 22 Q And how many physicians?  
 23 A Again I'm estimating, but last time I heard,  
 24 something on the order of in California --  
 25 Southern California, I believe, 2,000.

1 Northern California, a similar number.  
 2 Q And what is the goal of Kaiser Permanente in terms  
 3 of medical care?  
 4 A Well, I'm not sure I can answer exactly. I'm not  
 5 sure I understand exactly what you mean by "goal".  
 6 Q In terms of is one of the goals of  
 7 Kaiser Permanente to manage the costs of medical  
 8 care?  
 9 A I don't know. There's certainly been a lot of  
 10 controversy in recent years about managed care, but  
 11 Kaiser has been around for 50 years and I think  
 12 that preventive medicine was really the roots of  
 13 Kaiser Permanente.  
 14 Q And the members of Kaiser Permanente -- Kaiser,  
 15 I'll call it --  
 16 A Okay.  
 17 Q -- pay a certain membership fee to belong?  
 18 A Either they do or their employer group pays for  
 19 them.  
 20 Q And that is not -- does not change based on the  
 21 services they receive? It's a flat fee; is that  
 22 correct?  
 23 A That is correct.  
 24 Q Is your position at Kaiser a fulltime position?

1 Q And I take it then you don't have any medical  
 2 practice outside of Kaiser?  
 3 A That is right.  
 4 Q How is your professional time spent as an employee  
 5 at Kaiser Permanente?  
 6 A Well, I'm not exactly an employee. As  
 7 partner/physician.  
 8 Q Excuse me, partner/physician.  
 9 A Kaiser Permanente is divided into three facets.  
 10 There's the health plan, the hospitals and the  
 11 medical group, and I'm partner with the medical  
 12 group. My time, the vast majority of my time, is  
 13 spent in clinical medicine, practicing obstetrics  
 14 and gynecology.  
 15 I'm also the head of the residency program  
 16 which is affiliated with University of California  
 17 at Irvine, so I spend a small amount of my time  
 18 supervising the residents, and I spend a small  
 19 amount of my time doing research.  
 20 Q And as between those three functions, your clinical  
 21 practice, supervising residents and research, could  
 22 you give me a rough idea, in terms of percentage,  
 23 of how much time you devote to each?  
 24 A Probably over ninety percent of the time would be  
 25 clinical medicine and less than ten percent would

1 be divided up among everything else.  
 2 Q Do you have a curriculum vitae?  
 3 A Yes.  
 4 Q Did you bring one today?  
 5 A Yes.  
 6 MR. BOUGHTON: Perhaps we can have the  
 7 court reporter mark it.  
 8 Q (BY MR. BOUGHTON) I show you what the court  
 9 reporter has marked Deposition Exhibit No. 1 and  
 10 ask you if that is, in fact, a copy of your  
 11 curriculum vitae?  
 12 A Yes, that's a summary CV. I have a longer form  
 13 version which probably is 50 or 60 pages and most  
 14 people don't want to see it. Certainly you would  
 15 be welcome to it, if you want it too.  
 16 Q Is that summary up-to-date and current or accurate?  
 17 A This summary?  
 18 Q Yes.  
 19 A This is up-to-date and current, yes.  
 20 Q Do you have a copy of your longer form with you  
 21 this morning?  
 22 A No, I don't have it here.  
 23 Q Would it be possible for me to obtain a copy?  
 24 A sure.

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1 of the defendants in this case and I take it you  
 2 understand that?  
 3 A Yes.  
 4 Q Have you ever been a defense expert before in a  
 5 medical malpractice case?  
 6 A Yes, I have.  
 7 Q How many times would you say you have been a  
 8 defense expert?  
 9 A Well, I have reviewed a total of approximately  
 10 eighty cases over the last probably seven or ten  
 11 years and I have -- actually as far as giving  
 12 testimony, are you asking or --  
 13 Q Depositions, for example, like this morning.  
 14 A Probably on the order of 20 or so depositions.  
 15 Q And testifying in court?  
 16 A Probably four or five times approximately.  
 17 Q On all of those occasions were you a defense  
 18 expert?  
 19 A Yes.  
 20 Q Have you ever been a defense expert in a Michigan  
 21 medical malpractice case?  
 22 A Not in -- I have not appeared in a trial, but I  
 23 have given depositions, yes.  
 24 Q Have you ever been a defense expert for the law  
 25 firm representing the defendants in this case?

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1 A Yes.  
 2 Q And about how many times, if you know?  
 3 A Probably ten depositions, I would say. Something  
 4 on the order of that.  
 5 Q And perhaps reviewed a few additional cases?  
 6 A Yes.  
 7 Q Any idea of how many cases you have reviewed in  
 8 total for this law firm?  
 9 A I don't have any record of that.  
 10 Q Have you ever been a defense expert where Mr. Ryan  
 11 was the lead attorney for the defendant?  
 12 A I believe we're involved with one other case, if  
 13 I'm correct.  
 14 Q That's pending at the present time?  
 15 A Yes.  
 16 Q About when was it that you first acted as a defense  
 17 expert on behalf of this law firm? About how long  
 18 ago?  
 19 A On any case?  
 20 Q On any case, yes.  
 21 A I would say it's probably been approximately five  
 22 years. Four or five years.  
 23 Q Have you ever been an expert for a plaintiff in a  
 24 medical malpractice case?

1 Q Have you ever given a deposition for a plaintiff?  
 2 A No, I haven't.  
 3 Q Or testified in court?  
 4 A No.  
 5 Q Have you ever testified as -- in a medical  
 6 malpractice case as an expert against another  
 7 OB/GYN physician?  
 8 A No.  
 9 Q Do you know the date that you were initially  
 10 contacted in the Edwards case?  
 11 A Let's see. I have some cover letters, but I don't  
 12 -- I don't think any of these are the first ones.  
 13 Let's see. The first one goes back to July of '96,  
 14 but I believe it was a little before that. It was  
 15 before that.  
 16 Q And who was it that contacted you at that time?  
 17 A I can't recall. It may have been Mr. Ryan, but I'm  
 18 not actually sure.  
 19 Q Did you open a file at that time?  
 20 A I have everything with me that I recall that I  
 21 would call a file in this case, yes.  
 22 Q Basically, what does your file consist of?  
 23 A This is the "Notice of Intent to File a Claim", the  
 24 "Complaint and Demand for Jury", "Affidavit of  
 25 Merit" from Dr. Goodman. Then I have medical

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1 records from Karen Edwards.  
 2 Q And essentially what do you have in connection with  
 3 medical records?  
 4 A These are the prenatal records and intrapartum  
 5 records from the 1995 childbirth and, of course,  
 6 the fetal monitor records.  
 7 Q Do you have any of the records from the first  
 8 pregnancy?  
 9 A I believe I saw a copy of the operative report. I  
 10 don't think I have the complete records.  
 11 Did you want me to continue?  
 12 Q Yes, please.  
 13 A And then I have the depositions of Joseph Edwards,  
 14 Karen Edwards, Frank Takyi, M.D., T-a-k-y-i,  
 15 Paul Kelly, M.D., and Michael Goodman, M.D.  
 16 Q Do you have any medical records with respect to  
 17 Sammy Edwards?  
 18 A Oh, yes, I'm sorry, there's one additional newborn  
 19 record, yes.  
 20 Q Now, do you have any correspondence from Mr. Ryan's  
 21 office?  
 22 A There are a couple of cover letters here. This is  
 23 everything I have. There's just three cover  
 24 letters.

1 A Right.  
 2 Q -- basically?  
 3 A Basically indicating, "Enclosed for your further  
 4 review are the above-entitled documents".  
 5 Q Did you receive any case summaries or deposition  
 6 summaries from Mr. Ryan's office?  
 7 A No.  
 8 Q I take it you have reviewed the materials that you  
 9 have been furnished?  
 10 A Yes.  
 11 Q About how much time have you spent on this case up  
 12 to the present time?  
 13 A Probably somewhere between 15 and 20 hours.  
 14 Q Have you made any notes in connection with your  
 15 review?  
 16 A I have a one page summary here.  
 17 Q And does that consist of all of the notes that you  
 18 have made in connection with this case?  
 19 A Yes.  
 20 MR. BOUGHTON: Perhaps we could have that  
 21 marked as Exhibit No. 2.  
 22 THE WITNESS: Could I ask that I get a  
 23 copy of that as that is my only copy?  
 24 MR. BOUGHTON: Certainly. I will leave  
 25 this with you or we'll make some arrangements so

1 of those are pertinent.  
 2 Q Would those articles be listed on your lengthy  
 3 curriculum vitae?  
 4 A Yes.  
 5 Q Do you have a list of them this morning?  
 6 A No, I don't have that with me.  
 7 Q I take it you understand that Karen Edwards' uterus  
 8 ruptured during this particular labor?  
 9 A Yes.  
 10 Q Did you review the pathology report that was  
 11 contained in the medical records?  
 12 A Yes.  
 13 Q Were you able to determine the location of the  
 14 rupture based on the pathology report?  
 15 A Well, I believe I have that here. Let me just take  
 16 a look at it. I could not determine from the  
 17 pathology report the location of the uterine  
 18 rupture, no.  
 19 Q Do you see the reference in the pathology report to  
 20 photographs having been taken?  
 21 A Yes, photographs of specimens are taken.  
 22 Q Have you been furnished with any photographs in  
 23 this case?  
 24 A Not to the best of my knowledge, no.  
 25 Q Have you asked to see any photographs in this case?

1 you don't lose your original.  
 2 THE WITNESS: okay.  
 3 Q (BY MR. BOUGHTON) It appears to be -- correct me  
 4 if I'm wrong -- a summary of the events that were  
 5 taking place during the labor and delivery for  
 6 Karen Edwards on the 29th of January?  
 7 A Right. And also a brief summary of the prenatal  
 8 care and her past history.  
 9 Q You have said that is the only writing you have  
 10 prepared in connection with this case.  
 11 Did you prepare any recordings or  
 12 transcriptions of your impressions or thoughts --  
 13 A No, nothing like that.  
 14 Q -- or anything else to help you or assist you in  
 15 your review of these materials?  
 16 A Nothing to help me or assist me in the review, no.  
 17 Q Did you consult any medical literature in  
 18 connection with your review?  
 19 A No.  
 20 Q Or textbooks or anything of that nature?  
 21 A No.  
 22 Q Are there any articles that you believe are  
 23 pertinent to this case that we should be aware of?  
 24 A I have written several articles relating to vaginal

1 A No.  
 2 Q Have you seen any of the pathology slides?  
 3 A No, I haven't.  
 4 Q Have you asked to see those?  
 5 A No.  
 6 Q Am there a number of factors that can cause or  
 7 contribute to a ruptured uterus?  
 8 A YW.  
 9 Q What are some of those factors, based on your  
 10 experience?  
 11 A Multiparity, previous myomectomy, previous uterine  
 12 surgery, which would include previous cesarean  
 13 section.  
 14 Q What is previous myomectomy?  
 15 A This is if there is a fibroid or myoma in the wall  
 16 of the uterus and it's removed, the uterus is later  
 17 at greater risk for rupture.  
 18 Q Multiparity, previous myomectomy?  
 19 A Right.  
 20 Q Previous uterine surgery?  
 21 A Right.  
 22 Q What else?  
 23 A Oxytocin can be linked with uterine rupture.  
 24 Pitocin. Those are some of the main factors.



1 monitor catheter?  
 2 A That's been reported, yes.  
 3 Q Defective uterus?  
 4 A Defective uterus? I'm not sure exactly what would  
 5 be meant by that.  
 6 Q All right. What about manual rotation of the baby?  
 7 A Any type of instrumentation or manipulation, I  
 8 imagine, could be linked to uterine rupture.  
 9 Q What about obstructed labor?  
 10 A Has been linked to uterine rupture.  
 11 Q Abnormal presentation?  
 12 A Has been linked to uterine rupture, yes.  
 13 Q Large baby?  
 14 A Some of the older literature I have heard that  
 15 mentioned, yes.  
 16 Q Do you have an opinion as to the cause of the  
 17 uterine rupture in this case?  
 18 A No, I don't.  
 19 Q Are there any possibilities that you believe should  
 20 be considered as potential causes in this case?  
 21 A I think it's -- it's well-known that uterus -- that  
 22 the uterus can rupture in any labor, and certainly  
 23 in cases where the uterus ruptures in an area over  
 24 a previous scar, we feel fairly comfortable we have  
 25 at least a linkage between why it occurred.

1 In this particular case, with a rupture  
 2 appearing to have occurred more towards the  
 3 posterior aspect, it may just be one of these  
 4 unusual events where the uterus ruptures for no  
 5 obvious reason.  
 6 Q You mentioned that the location of the rupture  
 7 appears to be in the posterior aspect of the  
 8 uterus, correct?  
 9 A Yes.  
 10 Q And what is that based on?  
 11 A I'm basing that on the operative report and the  
 12 description of the operating surgeon.  
 13 Q This would be basically Dr. Kelly, correct?  
 14 A Yes.  
 15 Q Even though that was not verified in the pathology  
 16 report from the pathologist at the hospital?  
 17 A Well, the pathologist doesn't seem to indicate  
 18 anything on the pathology report about where the  
 19 rupture occurred.  
 20 Q So the potential cause in this case is what that  
 21 should be considered?  
 22 A Probably the majority of events that happen in  
 23 medicine -- and including very often uterine  
 24 ruptures -- don't have any known etiology. They

1 Q Did you form an opinion as to when the uterus  
 2 ruptured in this case?  
 3 A I can't, of course, give exact time. My  
 4 inclination is to think that it happened fairly  
 5 close to the time of the delivery.  
 6 Q Within what time frame would you estimate?  
 7 A Well, I think it would be easier to say if there  
 8 was -- if there's a catastrophic rupture and the  
 9 baby is expelled from the uterus or a major portion  
 10 of the baby is expelled, very often we can see  
 11 things on the fetal monitor strip that really help  
 12 us to mark the event. If there's a tear in the  
 13 uterine wall and the baby or the umbilical cord is  
 14 not expelled, sometimes the monitor findings aren't  
 15 as dramatic.  
 16 So I'm just basing my thinking on the fact  
 17 that the fetal monitor strip looked fairly  
 18 reassuring. And, for example, it would be hard for  
 19 me to believe that this rupture occurred within an  
 20 hour or two after the time that she came into labor  
 21 and delivery.  
 22 Q And started Stage 1 of labor? Is that what you're  
 23 talking about?  
 24 A In early labor, right. The fetal monitor strip, to  
 25 me, doesn't seem to reflect that, although it would

1 not be impossible that that could have happened.  
 2 Q Within a time frame from the time of delivery, are  
 3 you able to say how long before delivery this  
 4 uterine rupture may have occurred, based on what  
 5 you know of this case?  
 6 A Again I have reviewed dozens of uterine ruptures  
 7 and it's almost impossible to exactly time when the  
 8 uterus ruptured. I think it's pretty hypothetical.  
 9 Q You have reviewed the testimony of Dr. Kelly and  
 10 Dr. Takyi?  
 11 A Yes.  
 12 Q And I believe both of them estimated they felt the  
 13 rupture may have occurred within 30 minutes of  
 14 delivery.  
 15 Did you see that?  
 16 A Yes.  
 17 Q What's your impression about that?  
 18 A I think they certainly could be right, but I don't  
 19 think anybody in the world could actually -- could  
 20 answer that question accurately.  
 21 Q Is it your opinion that this uterine rupture could  
 22 have occurred before the second stage of labor  
 23 began?  
 24 A Theoretically it's possible.

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1 you have seen in this case in terms of the evidence  
 2 that you have had to review?  
 3 A I would think it would be unlikely but not  
 4 impossible.  
 5 Q Why would you say it would be unlikely?  
 6 A Again with the many cases of uterine rupture that I  
 7 have reviewed and the studies that we have done, if  
 8 there's a uterine rupture, very often there are  
 9 changes detected on the fetal monitor strip that  
 10 help us to see that.  
 11 Q What sort of changes?  
 12 A Very often we'll see prolonged deceleration of the  
 13 fetal heart rate -- that's perhaps the most common  
 14 finding -- that does not return to baseline. Very  
 15 deep variable decelerations are another finding  
 16 that we often see.  
 17 Q When you say a prolonged deceleration that does not  
 18 return to baseline, you mean never returns to  
 19 baseline or --  
 20 A In some cases that is exactly right. We have seen  
 21 cases where the fetal heart rate will fall perhaps  
 22 to 50 or 60 beats per minute and never recover.  
 23 Q You have seen other cases where it does recover?  
 24 A Yes.  
 25 Q So it can be a variety of situations in terms of

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1 the fetal heart rate, right?  
 2 A Yes.  
 3 Q Did you observe the delay between the delivery in  
 4 this case and the discovery of the ruptured uterus?  
 5 A I'm sorry, did I -- could you rephrase that? I'm  
 6 not sure I understand that.  
 7 Q Did you observe that there was a time delay between  
 8 the time of delivery and the time of discovery of  
 9 the ruptured uterus?  
 10 A Well, my understanding is that the discovery of the  
 11 ruptured uterus was after the delivery.  
 12 Q Right. And did you observe what that lag in time  
 13 was between the time of delivery and the discovery  
 14 of the ruptured uterus?  
 15 A I believe it was within the first hour after the  
 16 birth.  
 17 Q Did you also observe that neither Dr. Kelly nor  
 18 Dr. Takyi examined Karen Edwards' uterus at the  
 19 time of delivery?  
 20 A Yes.  
 21 Q Would you agree that that was an opportunity to  
 22 discover the ruptured uterus?  
 23 A That is an interesting way to phrase that. I  
 24 imagine there are many opportunities in life for

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1 it could have been an opportunity, yes.  
 2 Q Well, you believe that careful observation during a  
 3 trial of labor is mandatory to assure that the  
 4 majority of uterine ruptures occur without major  
 5 maternal consequences, correct?  
 6 A Yes.  
 7 Q I think I have quoted you accurately?  
 8 A That sounded very good.  
 9 Q All right. And certainly observing the condition  
 10 of the uterus at the time of delivery would be  
 11 consistent with that principle, would it not?  
 12 A No, we have not been doing interior examinations  
 13 for about a decade now after the delivery of the  
 14 baby.  
 15 Q We? Who is "we"?  
 16 A I'm talking about the majority of the physicians in  
 17 my group, some 200 physicians.  
 18 Q Certainly a uterine rupture that leads to a  
 19 hysterectomy is a serious maternal consequence; is  
 20 it not?  
 21 A Yes.  
 22 Q Would you agree that, according to the records,  
 23 Sammy Edwards was in respiratory distress at the  
 24 time of his birth?  
 25 A I'm not sure I would say respiratory distress. I

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1 see that the pediatric assessment did use the  
 2 terminology "respiratory distress".  
 3 Q Do you have any serious quarrel with the use of  
 4 that term to describe his condition?  
 5 t h No. I probably should add that again that I'm not  
 6 a neonatologist or a pediatrician though. That is  
 7 a little out of my league.  
 8 Q Would you further agree that the most probable  
 9 cause of the respiratory distress was hypoxia?  
 10 A No, I'm not sure that I would agree with that, just  
 11 reading through the neonatal notes. They have  
 12 several different potentials listed for that and I  
 13 see the terminology "TTN", which would be transient  
 14 tachypnea of the newborn, pneumonia, which often  
 15 can cause a transient difficulty with breathing  
 16 after birth. And then they're also ruling out  
 17 sepsis or pneumonia.  
 18 Q Did you determine whether or not they ruled out  
 19 sepsis and pneumonia?  
 20 A Again I'm not planning to testify to pediatric or  
 21 neonatal matters so --  
 22 Q You saw references in Sammy's records to hypotonia?  
 23 A Yes.  
 24 Q Loss of tone in the muscles of his upper trunk and

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1 A Yes.

2 Q Did you have an impression or form an opinion as to  
3 the cause of that condition?

4 A No. Very often soon after birth babies are  
5 somewhat hypotonic. I saw that the Apgars were  
6 "5", "7" and "9", and some of the points were taken  
7 off for decreased muscle tone, as they often are.

8 Q But I guess I'm not understanding what you're  
9 saying. You saw that the condition was reported at  
10 the time of birth, correct?

11 A Correct.

12 Q But as to the cause of the condition, you're not  
13 offering an opinion on that subject?

14 A Well, again I'm not sure what you're getting at. I  
15 understand that the Apgars were "5", "7" and "9",  
16 that the Apgar was "5" at one minute partially  
17 because two points were taken off for decreased  
18 tone. I'm agreeing with that. I guess I'm just  
19 not understanding.

20 Q Maybe I'm not understanding what you're saying,  
21 which is probably a more likely situation.

22 Are you -- would it be your opinion that  
23 hypotonia would be consistent with respiratory  
24 distress at the time of birth?

25 A They can occur simultaneous, they can occur

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1 independently.

2 Q Can hypotonia occur because of respiratory distress  
3 caused by hypoxia?

4 A Yes, it can.

5 Q Now, as I understand it, Dr. Flamm, you believe in  
6 recommending that women attempt a vaginal birth  
7 after they have had a cesarean section, correct?

8 A I believe if the woman wants to and has no  
9 contraindications, yes.

10 Q In fact, it would be fair to say that you are an  
11 advocate of what has been referred to as VBAC?

12 A I imagine the word "advocate" would be a fair term.

13 Q You have written a number of articles encouraging  
14 physicians to encourage their patients to attempt  
15 VBAC?

16 A Yes.

17 Q You have made presentations to your colleagues on  
18 that subject?

19 A Yes.

20 Q If the defendants had set out to find perhaps the  
21 No. 1 proponent of VBAC in the United States, it  
22 would have been you, would it not?

23 A I would be one of them.

24 Q Has anyone published more articles in favor of VBAC

1 A Well, there have been many authors that have  
2 published widely on the issue. I haven't counted  
3 up the exact numbers. I have published many  
4 articles.

5 Q Any that you know of that have published more than  
6 you have on the subject?

7 A I would really have to count. I know of a couple  
8 authors that may be right up there. I'm flattered  
9 but --

10 Q Who would they be?

11 A Several of the authors from USC have published many  
12 papers. Dr. Jeff Phelan.

13 Q Phelan? And how would you spell that?

14 A P-h-e-l-a-n. Jeffrey Phelan.

15 Richard Pulk, P-u-l-k.

16 Q Are they both at USC?

17 A Both at -- well, now Dr. Pulk is at USC.  
18 Dr. Phelan left USC many years ago.

19 Q Any other authors that come to mind that perhaps  
20 have published close to the number of articles you  
21 have on the subject?

22 A Probably not in that range, no.

23 Q It's true, isn't it, Dr. Flamm, that the success  
24 rate is not the same for all women who attempt  
25 VBAC?

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1 A That is true.

2 Q I believe your research has shown that women with a  
3 previous cesarean section for cephalopelvic  
4 disproportion or failure to progress have the  
5 lowest success rate?

6 A Well, I think you're referring to some of the  
7 studies that we did where we compared certain  
8 indications such as prior cesarean for breech or  
9 fetal distress or CPD, and in those groupings, yes,  
10 they had a lower success rate.

11 Q I think the success rate that you have reported was  
12 65 percent?

13 A That sounds correct, yes.

14 Q In other words, roughly a third of the women who  
15 attempted VBAC with that history failed to deliver  
16 vaginally?

17 A That is correct.

18 Q Another group of women, as I understand it, with  
19 the next lowest rate of success were women who  
20 received oxytocin during labor?

21 A Yes.

22 Q And, as I understand, you reported that in that  
23 group, 68 percent were able to deliver vaginally?

24 A I believe that's correct.

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1 the data for that group of women whose primary  
2 cesarean section was for failure to progress and  
3 who received oxytocin during a trial of labor?  
4 A I believe we probably did that. It may even be in  
5 some of the papers that we have published. I don't  
6 have it at the tip of my fingers.  
7 Q I have an article that was published by you in 1987  
8 entitled "Oxytocin During Labor After Previous  
9 cesarean Section: Results of a Multi-Center  
10 Study". And I believe it indicates in that study  
11 under Table 1 that women who had a history of  
12 primary cesarean section for failure to progress  
13 and who received oxytocin had a 54 percent success  
14 rate.

15 Does that sound right?

16 A Yes.

17 Q So nearly half of the women with that type of  
18 history failed to deliver vaginally when they  
19 attempted a trial of labor after cesarean section?

20 A In that data set. I should add that since then we  
21 have studied thousands more women and I'm not sure  
22 the numbers have borne that out.

23 Q Can you direct me to any more current study that  
24 specifically analyzes women with a history of  
25 failure to progress who attempt VBAC and receive

1 a primary cesarean section for failure to progress  
2 or cephalopelvic disproportion. And I believe in  
3 that study you had a total of 1,951 women. 1,268  
4 which were able to deliver vaginally and then  
5 roughly one third or 683 that did not deliver  
6 vaginally?

7 A This was in the CPD group, right?

8 Q Yes.

9 A Yes.

10 Q Have you published anywhere an article that  
11 describes what happened to those 683 women, why  
12 they didn't successfully deliver vaginally?

13 A No, I don't believe we did that, no.

14 Q You're familiar with the term macrosomia, correct?

15 A Yes.

16 Q That refers to the size of the baby?

17 A Yes.

18 Q And, as I understand it, for the purposes of your  
19 research you describe fetal macrosomia as a birth  
20 weight of 4,000 grams or more, correct?

21 A I did that one for one specific paper and there was  
22 a reason for that. The ACOG guidelines for VBAC  
23 that responded to a questionnaire note with a 4,000  
24 gram estimated fetal weight. So for the purposes  
25 of that particular paper we chose a cutoff point of

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1 oxytocin during their trial of labor?

2 A I would actually have to look and see -- look  
3 through the literature. I don't have anything at  
4 the tips of my fingers right now that I could  
5 mention.

6 Q Did you see anything in the medical information  
7 that you were provided that indicated that Karen  
8 and Joe Edwards were told about this statistic that  
9 approximately half of the women with this type of  
10 history do not successfully deliver vaginally?

11 A Well, first of all, I would have to make sure I  
12 understand your question because most of the  
13 time --

14 Q I'm talking about the 54 percent success rate.

15 A Right. Well, again on the 54 percent rate I would  
16 have to say that is from a paper we published a  
17 decade ago and since then we have done a dozen  
18 studies and I'm not sure that that number is still  
19 accurate.

20 And then as far as the second part,  
21 whether they were told, I don't know that they were  
22 specifically told any numbers, no.

23 Q Another question. In 1990 you published another  
24 article that dealt with VBAC and that had to do

1 4,000 grams.

2 Q So at the time you were doing that, 4,000 had been  
3 the accepted definition of macrosomia among the  
4 American College of Obstetricians & Gynecologists,  
5 correct?

6 A It was the terminology used in the VBAC guidelines.  
7 I'm not sure that everybody agreed in the general  
8 practice of obstetrics that 4,000 grams meant  
9 macrosomia.

10 Q That was the definition used by the American  
11 College of Obstetrics & Gynecologists, correct?  
12 That's ACOG?

13 A Yes, relating to VBAC. It was in their guidelines,  
14 yes.

15 Q As in reference to the term macrosomia?

16 A Yes.

17 Q And Sammy Edwards at the time of birth, according  
18 to the records, I believe weighed nine pounds and  
19 four ounces, correct?

20 A Correct.

21 Q Which converts to 4,205 grams?

22 A That's -- I can't convert that in my head, but that  
23 sounds just about right.

24 Q So he would be more than 4,000 grams obviously?

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1 Q And that was not unexpected in this case?  
 2 A Well, I don't know exactly what you mean by  
 3 "unexpected".  
 4 Q Well, it was predicted by the ultrasound that had  
 5 been performed just before the -- few days before  
 6 the admission for induction of labor, correct?  
 7 A It was within the range of what you might suspect  
 8 from their prediction, yes.  
 9 Q In fact, that was the reason for her admission to  
 10 the hospital and induction of labor, inducement of  
 11 labor?  
 12 A Yes.  
 13 Q And obviously you're familiar with the American  
 14 College of Obstetricians & Gynecologists, right?  
 15 A Yes.  
 16 Q You're a member?  
 17 A Yes.  
 18 Q Dr. Kelly is a member?  
 19 A I believe so.  
 20 Q They're the organization that certifies  
 21 obstetricians and gynecologists?  
 22 A Yes.  
 23 Q And over the years -- I think you have already  
 24 alluded to this -- they have published guidelines  
 25 concerning VBAC?

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1 A Yes.  
 2 Q And I believe they started, what, in 1982?  
 3 A I think that's correct.  
 4 Q And those guidelines have been revised from time to  
 5 time?  
 6 A Yes.  
 7 Q I believe they were revised in '84?  
 8 A Uh-huh.  
 9 Q Yes?  
 10 A I believe that's right.  
 11 Q '88?  
 12 A Yes.  
 13 Q And in 1995?  
 14 A Yes.  
 15 Q The early guidelines cautioned against the trial of  
 16 labor where the estimated fetal weight was over  
 17 4,000 grams, correct?  
 18 A Yes.  
 19 Q And in 1984 I believe ACOG specifically said the  
 20 estimated fetal weight should be less than 4,000  
 21 grams to be a candidate for VBAC, correct?  
 22 A What year was that?  
 23 Q '84.  
 24 A Again I don't know the specifics of what they said,

1 that era, around 1984.  
 2 Q And then in 1988 they altered their recommendation  
 3 somewhat and they said the effects of labor on  
 4 patients with an estimated fetal weight of more  
 5 than 4,000 grams have not been substantiated?  
 6 A I believe that's correct, yes.  
 7 Q And, in fact, those guidelines -- the 1988  
 8 guidelines -- were the guidelines that were in  
 9 effect on January 29, 1995, when this baby was  
 10 delivered?  
 11 A I'm just pondering that for just a moment. I was  
 12 trying to think if there were any interim notes  
 13 from ACOG, and I can't recollect right off.  
 14 Q So that would be true, correct?  
 15 A Again I don't -- I haven't memorized all the dates  
 16 of the ACOG guidelines, when they were published.  
 17 I haven't memorized all those statistics.  
 18 Q The guidelines in 1995 were published under an  
 19 August, 1995, date, correct?  
 20 A If you say they were, yes.  
 21 Q Have you analyzed cases and reported in the  
 22 literature the situation involving women where the  
 23 primary cesarean section was done for failure to  
 24 progress, you have an estimated fetal weight of  
 25 4,000 grams or more, and oxytocin was used to

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1 induce labor?  
 2 A No.  
 3 Q And that really describes the present case, does it  
 4 not?  
 5 A Well, I want to explain my answer to that. The  
 6 reason we haven't analyzed that is because we don't  
 7 specifically use estimated fetal weights. And I  
 8 think the reason we don't do that is because the  
 9 paper we published, I believe in 1989, showed that  
 10 even if we knew the true fetal weight -- not some  
 11 guessimate/estimate, on an ultrasound -- the  
 12 outcomes were similar with babies above and below  
 13 4,000 grams.  
 14 Q All right. But I guess my question was going to  
 15 whether you have taken that group of parameters  
 16 that I referred to where the primary cesarean  
 17 section was for failure to progress --  
 18 A Right.  
 19 Q -- where the estimated fetal weight was 4,000 grams  
 20 or more and where oxytocin was used to induce labor  
 21 and analyzed the VBAC results in this group of  
 22 women.  
 23 A I think we have with the infants that the actual  
 24 weight was over 4,000 grams and required oxytocin

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1 Q Where do you think that was recorded? Can you  
2 recall?

3 A I'm unsure if we reported it. We have many  
4 databases and I have published over a dozen papers,  
5 so I'm not sure if that specific breakdown, that  
6 specific sub subgroup of patients has been reported  
7 or not.

8 Q Okay. And that subgroup really describes the  
9 subgroup that Karen Edwards was in at the time of  
10 her admission to the hospital on January 29th,  
11 1995, correct?

12 A No, because we were looking at women with actual  
13 known birth weights of over 4,000 grams. Her  
14 status was only an estimated fetal weight at that  
15 time.

16 Q With that qualification she then fits into the  
17 group of women that had that type of history,  
18 correct?

19 A Yes.

20 MR. RYAN: We're not going to quibble  
21 about the, you know --

22 MR. BOUGHTON: I hope not.

23 MR. RYAN: It's below 4,000 grams, but I  
24 think we're in the same range.

25 MR. BOUGHTON: I think the ultrasound was

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1 within 21 grams of 4,800.

2 MR. RYAN: Well, I mean -- but the way  
3 you're phrasing your question is over 4,000 grams.  
4 But it's in the ballpark. I'm not -- I don't think  
5 it's any big deal.

6 Q (BY MR. BOUGHTON) So are you prepared to say today  
7 what the success rate would be, based on your  
8 research, experience, for women that are in that  
9 category?

10 A Well, I have published, so this is in print, that I  
11 don't have strong feelings in favor of estimated  
12 fetal weight. There have been many studies done --  
13 not by myself but by experts in the field --  
14 showing that the estimated fetal weight, when you  
15 get into this weight range, around 4,000 grams,  
16 becomes extremely inaccurate and it can often be  
17 off by a pound in either direction.

18 Q Okay. I hear what you're saying about your opinion  
19 with respect to that but my question was are you  
20 able to say whether you agree with the criteria or  
21 not, what the expected success rate would be for  
22 women who fit this subgroup that -- as you have  
23 described it?

24 MR. RYAN: You're asking him to assume the

1 MR. BOUGHTON: Yes.

2 MR. RYAN: Want to do that? Okay.

3 THE WITNESS: So I don't know that I can.

4 I guess I could do that. If you're saying you want  
5 me to assume now for a moment that we have a new  
6 technology and estimated fetal weights are accurate  
7 and we can assume --

8 Q (BY MR. BOUGHTON) Fine, do that.

9 A -- that the true weight was just under 4,000 grams,  
10 not the estimated weight, then I think in that  
11 category I would refer back to the paper I did that  
12 I published in 1989 where we actually knew the  
13 birth weights and we could probably break that data  
14 down.

15 Now, I'm not sure that the paper broke it  
16 down that specifically by weight. I know we used  
17 the categories less than 4,000, 4,000 to 4,500, and  
18 over 4,500 grams. And then we gave the outcomes as  
19 far as maternal complications, fetal complications,  
20 uterine rupture and success being it wasn't a  
21 vaginal birth or not. I don't have that paper with  
22 me, but that's getting close to what you're asking  
23 for.

24 Q Yes. And I'm specifically asking if you have any  
25 feel for what the success rate would be if you

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1 claimed those three factors, the primary cesarean  
2 section for failure to progress, the estimated  
3 fetal weight of 4,000 grams and the use of oxytocin  
4 to induce labor, if you put that group together?

5 A I would actually have to look at my paper, first of  
6 all, because I'm not sure exactly what our data  
7 showed. Do you happen to have that one? I think  
8 that is actually -- that's the paper here  
9 (indicating).

10 Q 1989?

11 A Let me just see if I can come close to answering  
12 your question.

13 Yeah, we did not break down the data in  
14 this paper specifically on outcomes as far as  
15 vaginal birth, I think, the way you're describing  
16 it.

17 We said that oxytocin was used for  
18 induction or augmentation in 35 percent, 105 of the  
19 301 of the fetal macrosomia group, and 45 percent  
20 of these patients delivered vaginally. Now, I  
21 believe --

22 Q What percent? I'm sorry?

23 A It's 45 percent delivered vaginally. And I believe  
24 that that is including the women that weighed --

1 those over 4,500 grams. So this is all the way up  
 2 to a few babies that were even over 5,000 grams.  
 3 In that whole group all babies with true  
 4 birth weights over 4,000 grams who required  
 5 oxytocin additionally, the vaginal birth rate was  
 6 45 percent.  
 7 Q Would you agree that under the ACOG guidelines that  
 8 were in effect in January of 1995 that we have  
 9 referred to, macrosomia would be a relative  
 10 contraindication to VBAC?  
 11 A No, I wouldn't use the term "relative  
 12 contraindication".  
 13 Q You have heard that term before, right, "relative  
 14 contraindication?"  
 15 A Yes.  
 16 Q As distinguished from an absolute contraindication?  
 17 A Right.  
 18 Q Would you agree that in the present situation, that  
 19 is, Karen Edwards' situation, we have a woman who  
 20 is a borderline candidate for VBAC?  
 21 A No, I wouldn't agree with that at all.  
 22 Q You agree that she had a previous cesarean section  
 23 for failure to progress?  
 24 A Correct.  
 25 Q They planned to use oxytocin in this trial of

1 labor?  
 2 A Right.  
 3 Q And we talked about the ACOG guidelines that were  
 4 in effect at the time of this delivery in January  
 5 of '95, right?  
 6 A Yes.  
 7 Q Would you agree that certainly careful skilled  
 8 observation is mandatory in a patient like  
 9 Karen Edwards?  
 10 A Yes.  
 11 Q Are there at Kaiser written protocols that permit a  
 12 second year resident to monitor Pitocin induction  
 13 in a patient like Karen Edwards in the absence of  
 14 the attending physician?  
 15 A I'm not familiar with any written protocols.  
 16 Q So no, there aren't any that you know of?  
 17 A Written?  
 18 Q Yes.  
 19 A Not that I know of, written.  
 20 Q I take it then you're familiar though with  
 21 practice?  
 22 A Yes.  
 23 Q And that's what? What is the practice?  
 24 A The practice would be that the resident would be

1 Q Like Karen Edwards?  
 2 A Yes.  
 3 Q Is it -- are there any written protocols at Kaiser  
 4 with respect to the use of an intrauterine monitor  
 5 in this type of labor?  
 6 A I'm not familiar with any written protocols, no.  
 7 Q And the practice? Is it the practice to wait six  
 8 or so hours after the spontaneous rupture of  
 9 membranes before using an intrauterine monitoring  
 10 device?  
 11 A We often don't use them at all unless they're  
 12 indicated for some specific reason.  
 13 Q Now, I'm talking about in a case like  
 14 Karen Edwards'.  
 15 A Yes. No.  
 16 Q Want to stick with her facts. She has her history  
 17 that we know about.  
 18 A Right.  
 19 Q She's admitted because of pending macrosomia?  
 20 A Right.  
 21 Q She's being induced with Pitocin?  
 22 A Yes.  
 23 Q Okay. Let's just stick with these facts, if we  
 24 can.  
 25 A Yes.

1 Q Are you saying there are situations where you don't  
 2 use it at all?  
 3 A Internal monitor, you're talking about?  
 4 Q Yes.  
 5 A Yes, absolutely, that is correct.  
 6 Q What would those situations be?  
 7 A Probably the majority of situations.  
 8 Q And why?  
 9 A Well, the fetal monitoring -- the goal of fetal  
 10 monitoring is to try to get an assessment of how  
 11 the fetus is doing. And if we can assess well with  
 12 external fetal monitoring, we don't see any reason  
 13 to use internal monitoring.  
 14 Q And how do you know?  
 15 A Well, for example, if we have a woman where we're  
 16 monitoring the baby and we're seeing loss of signal  
 17 where more often than not we're not able to get any  
 18 recording back on the fetal monitoring strip, that  
 19 would definitely be an indication to go ahead and  
 20 put internal monitors. If we're picking up, if  
 21 we're detecting the events with external  
 22 monitoring, we don't usually see any reason to go  
 23 to internal monitoring.  
 24 Q If you have a woman who through external monitoring



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1 the term --

2 MR. RYAN: Hypertonic.

3 MR. BOUGHTON: Hypertonic contraction.

4 Thank you.

5 Q (BY MR. BOUGHTON) Would that be an indication for  
6 internal monitoring?

7 A Well, there's two different things I guess I should  
8 qualify. There's two different monitors, two  
9 different internal monitors, two different external  
10 monitors.

11 Q Right.

12 A With respect to the fetal heart monitor, if you're  
13 seeing decelerations and you're seeing them  
14 clearly, I don't know that there's any need to put  
15 an internal monitor in.

16 If you're having trouble seeing what's  
17 going on, then yes, definitely you would want to  
18 put an internal fetal EKG, fetal scalp lead in.

19 With regard to the pressure catheter, we  
20 generally do not use them in VBAC labors unless  
21 there's another reason to insert them.

22 Now, you mentioned the question about  
23 hypertonic activity of the uterus. If that's a  
24 question, if we're concerned about the uterine  
25 activity, if we're concerned if we're detecting it

1 Q So if I understand what you're saying, Doctor, what  
2 you're saying is that your practice in VBAC is not  
3 to use internal monitoring; is that correct?

4 A No, not routinely.

5 Q So I am correct?

6 A You are correct.

7 Q You're trained in interpreting the fetal heart  
8 monitor tapes?

9 A Yes.

10 Q And there are standards and guidelines that are  
11 accepted among your profession regarding the  
12 interpretation of these tapes?

13 A Well, that's a really tough question to answer  
14 because it's a very -- it's a very difficult thing  
15 to do. Many things we do in obstetrics are very  
16 clear-cut, yes or no answers. The interpretation  
17 of fetal monitoring is not one of them.

18 Q Did you receive, as part of the materials that were  
19 furnished to you, a copy of Deposition Exhibit  
20 No. 4 (indicating)?

21 A I don't believe I received this, no.

22 Q It would have been attached to Dr. Takyi's  
23 deposition.

24 A I have -- I have the deposition here. I'm just  
25 looking at it. I didn't see it attached to my

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1 accurately, then that would be an indication to put  
2 in a internal pressure catheter.

3 Q What would you look for or what would be evidence  
4 of concern that would cause you to do it?

5 A I think the most common thing we would see is if  
6 we're not seeing a pattern that seems consistent  
7 with the labor. In other words, a woman comes in,  
8 VBAC labor, we have an external pressure catheter  
9 on, she seems to be having extraordinary labor,  
10 she's having -- seems to be in a lot of pain, her  
11 contractions are coming and going every three  
12 minutes, but on our TOCO or external monitor, we're  
13 not seeing much of anything. Then we would say  
14 this doesn't seem to be reflecting what's actually  
15 going on and we want to put an internal pressure  
16 catheter in

17 Q Are there any other circumstances under which you  
18 would want to use it?

19 A We also use internal pressure catheters if a woman  
20 is failing to progress and we're concerned that  
21 there is -- we're going to be possibly doing a  
22 cesarean section for the indication of failure to  
23 progress. To document that we'll often put an  
24 internal pressure catheter in to more accurately

1 copy.

2 Q Okay. Would you just take a moment and look at  
3 Deposition Exhibit No. 4?

4 A Yes, I'm looking at that.  
5 Okay.

6 Q Are the standards and guidelines set forth in  
7 Exhibit No. 4 consistent with your education and  
8 training?

9 A Some but not all of them.

10 Q All right. And I guess it's important to know  
11 which ones are not.

12 A Well, on the bottom there's a graph here that says  
13 "Principles of Grading Late & Variable  
14 Decelerations".

15 Q Yes?

16 A Particularly with regard to where they talk about  
17 late decelerations, mild, moderate and severe, my  
18 understanding is that all of the recent literature  
19 indicates that this does not make sense.

20 Q What would be the current thinking in terms of  
21 interpreting late decelerations?

22 A Well, there are many things that aren't shown on  
23 here. The only thing that they're talking about  
24 here is the actual beats per minute --



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1 A -- and how far that drops. So there's only one  
2 small parameter of how you interpret decelerations.  
3 But they --

4 Q Excuse me, but insofar as that goes, is that  
5 correct as according to your understanding, even  
6 though incomplete?

7 A No. That is what I'm pointing out.

8 Q Okay.

9 A I don't even think -- this is not consistent with  
10 the recent literature that I have read.

11 Q What would you say the beats per minute variables  
12 are?

13 A Well, I think you can't quantitate them with beats  
14 per minute. In other words, I think if you were to  
15 ask many experts in interpreting fetal monitoring,  
16 they would say that late decelerations don't  
17 necessarily correlate at all. I mean, the  
18 significance of the late deceleration with the drop  
19 in beats per minute.

20 Q What would they tell you about late decelerations  
21 and how you recognize them in the fetal monitoring  
22 tapes?

23 A Wait a second. You're asking me how you would  
24 recognize them or are you asking about their  
25 grading?

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1 Q Grading?

2 A As far as their grading, that is the point I'm  
3 contesting here. This is really not so much having  
4 to do with of the recognition of a late  
5 deceleration. In other words, a late deceleration  
6 that drops to more than 45 beats per minute, I  
7 might even be skeptical if that's a late  
8 deceleration. Typically, late decelerations are  
9 very symmetrical, they're uniform, smooth. And  
10 it's very unusual to see late decelerations that  
11 drop to 45 beats per minute or more.

12 But they're calling that on this graph  
13 "severe", and I think some of the earlier books and  
14 earlier literature certainly broke them down  
15 similarly to variable decelerations as they do in  
16 this graph.

17 Q So if I understand what you're saying, the -- it's  
18 no longer accepted to grade late decelerations on  
19 the basis of how much the heart rate goes down?

20 A I think that's not one of the major factors.

21 Q That today we evaluate them or recognize their  
22 presence based on whether they occur in the cycle?

23 A Whether they occur, the repetitiveness of the  
24 decelerations, the return to baseline, the

1 together in this. The point I was just making is I  
2 don't agree that you have a severe situation which  
3 is -- they're calling it severe --

4 Q Yes.

5 A -- based just on the how far the heart rate goes  
6 down with the late deceleration.

7 Q Other factors would have to be taken into  
8 consideration, including those you just listed,  
9 correct?

10 A Right.

11 Q All right. Any other problems with Exhibit No. 4  
12 that you see?

13 A Well, I have just -- again most of the stuff that  
14 is above seems to make sense. The section on  
15 periodic changes seems to make sense. The section  
16 on the baseline rates seems to make sense. But  
17 this whole bottom section I'm not sure is really  
18 up-to-date. They talk about variable decelerations  
19 and they're talking about the duration. So in the  
20 same table they're comparing the lates with the  
21 variables, they're talking about the length of the  
22 variable deceleration and not talking anything  
23 about its depth. And they're talking about the  
24 depth of the late deceleration and not talking  
25 about anything about its length.

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1 Q Its duration?

2 A Yeah, how long it lasts. So I just am not sure  
3 that I am comfortable with this bottom table.

4 Q Fair enough.

5 What would be a reliable source, in your  
6 opinion, in terms of the interpretation of late and  
7 variable decelerations that is current?

8 A There are many sources. Certainly there have been  
9 many books written on fetal monitoring. There have  
10 been hundreds of articles written. And ACOG has  
11 published information on interpretation of fetal  
12 monitors from --

13 Q So give me one source.

14 MR. RYAN: Objection to the form of the  
15 question.

16 THE WITNESS: I guess what I'm saying --  
17 thank you. I guess what I'm saying is I'm not  
18 clear that there's -- I can give you any one  
19 authoritative or reliable source. I think that we,  
20 as obstetricians and gynecologists, reach our  
21 conclusions by looking at dozens of sources.

22 Q (BY MR. BOUGHTON) Okay. You have mentioned ACOG  
23 as being one?

24 A Yes.

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1 than just saying there are sources out there?  
 2 A Can I mention other potential sources —  
 3 Q Yes.  
 4 A -- in literature?  
 5 I mean, there have been hundreds.  
 6 Q That is what I mean. What literature? What  
 7 textbooks? What —  
 8 A The American Journal of Obstetrics & Gynecology.  
 9 There have been many — dozens, probably hundreds  
 10 — of papers written on fetal monitoring. The  
 11 Journal of Obstetrics & Gynecology. Again there  
 12 have probably been hundreds of papers written on  
 13 interpretation of fetal monitoring.  
 14 Q See, I would just like to know one that perhaps you  
 15 could refer me to that you have consulted and you  
 16 feel that it is pertinent to this subject.  
 17 A I'm not sure I can refer you to any one single  
 18 article that sets the standards for fetal  
 19 monitoring.  
 20 Q So you can't?  
 21 A I can't, no.  
 22 Q Now, I take it you have reviewed the fetal monitor  
 23 tapes in this case?  
 24 A Yes, I have.  
 25 Q And you have observed the presence of

1 of the tapes, that basically what you have  
 2 highlighted are the notations that either the nurse  
 3 -- that I believe the nurses made on the tapes?  
 4 A Yes, very often I will highlight nursing comments  
 5 or if a physician makes a comment on the strip, I  
 6 will highlight that.  
 7 Q All right. The only time that I saw a mark on  
 8 either the fetal heart rate or the contraction  
 9 pattern was at Panel 28574.  
 10 A Yes, I see that.  
 11 Q Do you know what you were or why you were marking  
 12 that particular contraction?  
 13 A I was -- at that point it was looking to me like  
 14 she may have begun pushing at that point.  
 15 Q And I don't see any other places in your copy of  
 16 the records where you have highlighted any of the  
 17 fetal heartbeat patterns or contraction patterns.  
 18 A That's probably correct.  
 19 Q Have you been asked to do anything else with  
 20 respect to the fetal heart tapes and contraction  
 21 tapes, fetal monitoring tapes, by Mr. Ryan?  
 22 A I'm sorry, have I been asked to do anything else  
 23 with them?  
 24 Q Anything further than you have already done with  
 25 them?

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1 decelerations?  
 2 A Yes, I have.  
 3 Q Did you mark the tape or make any notes concerning  
 4 the incidents of decelerations?  
 5 A I know the terminology, "Mark the tape" — I  
 6 highlighted things. I made several highlights on  
 7 my copy. I don't believe that I marked in terms of  
 8 writing any comments.  
 9 Q And when you highlighted, what were you  
 10 highlighting?  
 11 A As with all the records I review, I — any time  
 12 anything strikes my interest, I highlight it in  
 13 yellow so that I can refer back to it quickly.  
 14 Q Could I just take a look at your copy?  
 15 A Sure.  
 16 Q Thank you.  
 17 Couple of places appears that you may have  
 18 written the time next to the military time?  
 19 A Yes, that is one thing that I occasionally do  
 20 because still in spite of 20 years of looking back  
 21 and forth between military time and our standard  
 22 time, I still have trouble with times. So just to  
 23 make things crystal clear, sometimes I will write  
 24 the actual time next to the military time.

1 MR. RYAN: Other than review them and  
 2 provide an expert opinion related to their  
 3 significance?  
 4 MR. BOUGHTON: Yes. I mean -- excuse me.  
 5 Good point.  
 6 Q (BY MR. BOUGHTON) In terms of marking or preparing  
 7 any exhibits or anything of that nature?  
 8 A No.  
 9 Q Okay. If you are asked to do so, then I would  
 10 simply ask that we be furnished a copy with  
 11 anything that you do in terms of marking the tapes.  
 12 A Sure.  
 13 Q Did you review the labor and delivery record that  
 14 was prepared by the nurses?  
 15 A Yes.  
 16 Q Did you note that beginning at about 1:00 p.m. the  
 17 nurses note the decelerations?  
 18 A Yes.  
 19 Q And continued to record decelerations at every  
 20 entry and basically until the child was born at  
 21 9:55 p.m.?  
 22 A I noticed comments in the nursing notes, yes.  
 23 Q Did your review of the fetal monitor tapes differ  
 24 substantially from that that the nurses made at the

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1 A I don't know that I made a point-by-point  
2 comparison of everything that the nurses said. I  
3 would have to actually go through and look at what  
4 every nurse said, so I'm not sure I can answer that  
5 without doing that.

6 Q In terms of them recording decelerations, did you,  
7 in the course of your review, come to any point  
8 that you can recall where you took exception to  
9 that?

10 A Again we would have to look at every note, what  
11 every nurse said about every deceleration because  
12 very often a nurse may interpret one particular  
13 deceleration a certain way and I might disagree  
14 with that. So I can't say categorically that I  
15 agreed with everything that every nurse said or  
16 that I disagreed with some of the things. I don't  
17 think I can say that.

18 Q But you can say there's nothing that stands out in  
19 your mind today in terms of a difference you had  
20 with them; is that fair?

21 MR. RYAN: well, I'm going to object to  
22 the form of the question because it is extremely  
23 broad. You are talking about a monitor strip that  
24 is --

25 MR. BOUGHTON: Several hours long.

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1 MR. RYAN: Began from 1:00 to until almost  
2 10:00. What, eight or nine hours? You have got  
3 the nurse charting on the record itself about every  
4 two hours and charting variable decelerations, you  
5 know. I think the question at this point is a  
6 little bit broad.

7 MR. BOUGHTON: Admittedly it is.

8 Q (BY MR. BOUGHTON) But there's nothing -- no  
9 difference of opinion that stands out in your mind  
10 this morning as we're sitting here, I take it?

11 A I think if there was a specific point that you  
12 would like to look at what a nurse said about a  
13 certain deceleration at a certain time and ask me  
14 if I agree or disagree with that --

15 Q I'm trying to avoid that.

16 A -- I can do that. But I can't say that I'm in 100  
17 percent full agreement or disagreement with  
18 everything that was written over the course of this  
19 many hours of labor.

20 Q I --

21 A That is a tough one to answer.

22 Q You have said that a couple times and I understand  
23 that, but you can also agree or say, I think it's  
24 fair to say, there's nothing that stands out in

1 the nurses this morning, is there, that you can  
2 recall?

3 A Well, I would hesitate to say that because perhaps  
4 there's something that a nurse wrote in one of the  
5 little notes -- and there's hundreds of pages of  
6 documentation here -- that I would disagree with.  
7 I'm haven't memorized hundreds of pages of  
8 documents here.

9 Q Are you familiar with the diagnostic technique of  
10 scalp pH?

11 A Yes, I am.

12 Q And did you receive a copy of Deposition Exhibit 6  
13 with the materials that you were supplied?

14 A I don't believe that I received this (indicating).

15 Q This is simply an illustration of the technique  
16 used for fetal scalp blood sampling?

17 A Yes, but I don't think I received it.

18 Q Okay. But you have seen perhaps illustrations  
19 similar to this in the past?

20 A Yes.

21 Q And this is a technique that was introduced, as I  
22 understand it, in the 1960s?

23 A Yes.

24 Q And can be used to obtain information about the  
25 well-being of the baby?

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1 A Yes.

2 Q Would you agree that an indication for use of the  
3 scalp pH is persistent abnormal patterns in the  
4 fetal heart monitor?

5 A It can be an indication for the use of it, yes.

6 Q Were you provided a copy of a Deposition Exhibit 7  
7 for your review?

8 MR. RYAN: Let me object to the foundation  
9 for all those exhibits. There's no foundation for  
10 use in cross-examination.

11 But go ahead.

12 THE WITNESS: I don't believe I received a  
13 copy of this, no (indicating).

14 Q (BY MR. BOUGHTON) This is an algorithm for  
15 management of abnormal fetal heart tracing?

16 A Yes.

17 Q Have you seen this type of algorithm in the past?

18 A Yes, I have.

19 Q Have you, in fact, even seen this one?

20 A I don't think I have seen this one. I may have.  
21 Again over the years I have seen many algorithms  
22 relating to fetal scalp monitoring. I may have  
23 seen this one in the past.

24 Q Is this a guideline that is used by obstetricians

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1 scalp monitoring?  
 2 A It may be used by some.  
 3 Q Do you know if this is one -- an accepted guideline  
 4 by obstetricians and gynecologists?  
 5 A Well, again I would have to say accepted by what  
 6 obstetrician/gynecologist?  
 7 MR. RYAN: Where is it from?  
 8 MR. BOUGHTON: Well, that was in the --  
 9 it was in the Takyi deposition, I believe.  
 10 MR. RYAN: I don't know, but you brought  
 11 it to the deposition. There's no foundation for  
 12 the use of the document. You may have drafted the  
 13 document for all we know.  
 14 MR. BOUGHTON: Well, no, I guarantee you  
 15 that I did not draft it.  
 16 Q (BY MR. BOUGHTON) well, can you say whether or not  
 17 this type of a guideline is accepted by  
 18 obstetricians and used by them in their practice?  
 19 A I can say that there may be some that are still  
 20 using this guideline or similar ones, but maybe I  
 21 can save some time by telling you that I personally  
 22 have not performed a scalp pH in over five years  
 23 and I don't think any of my colleagues have  
 24 performed one in many years either.  
 25 Q And why is that?

1 used, there have been articles showing that in the  
 2 incipient stages of doing the scalp pH it was found  
 3 that when the baby's head was stimulated, either  
 4 with a finger or with an instrument, if there was  
 5 an acceleration, the pH value is uniformly good.  
 6 And I think based on those studies years ago many  
 7 doctors abandoned doing scalp pHs.  
 8 Q Can you direct me to an article?  
 9 A I don't have the reference offhand. I don't  
 10 remember the reference for it.  
 11 Q Have you written on this subject?  
 12 A I'm searching my memory, but I don't believe I have  
 13 specifically written on scalp pH.  
 14 Q Then I take it you have formed an opinion as to  
 15 whether or not a scalp pH was indicated in this  
 16 case?  
 17 A Yes.  
 18 Q And your opinion is that it was not?  
 19 A Correct.  
 20 Q And the basis for that is you don't believe that  
 21 it's a reliable technique to determine the  
 22 well-being of the baby?  
 23 A Well, I still think in some cases the scalp pH may  
 24 be a useful tool. I know that many hospitals  
 25 around the country have discarded the

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1 A I feel that the whole concept of doing scalp pH is  
 2 really going out of vogue because it's felt that  
 3 the reliability is not there, there are problems  
 4 often with obtaining the sample and getting pure  
 5 fetal blood which is not mixed with maternal blood.  
 6 I was trained by the physicians who developed the  
 7 fetal scalp pH testing and, to the best of my  
 8 knowledge, even some of those doctors no longer use  
 9 it or recommend it.  
 10 Q And those doctors would be who?  
 11 A Well, I have trained with Dr. Quilligan, and I  
 12 haven't talked to him specifically recently about  
 13 this, but he was one of the fathers of the fetal  
 14 scalp pH testing.  
 15 Q Quilligan spelled --  
 16 A Q-u-i-l-l-i-g-a-n. Edward Quilligan  
 17 Q Where is he practicing?  
 18 A University of California at Irvine  
 19 Q Have there been articles in the literature that  
 20 have discussed the use of fetal scalp monitoring  
 21 and the difficulties with it and recommending that  
 22 it no longer be used?  
 23 A There have been articles discussing the  
 24 difficulties with it, And as opposed to

1 instrumentation. We no longer have our scalp pH  
 2 testing equipment. I'm not sure, to be honest,  
 3 with you, if this hospital even has the equipment  
 4 to do scalp pH testing so I wouldn't want to say  
 5 categorically that the scalp pH testing is  
 6 worthless, it's not reliable. But I think in the  
 7 last several years the use has really fallen off.  
 8 It's become very uncommon in this country to do  
 9 scalp pH testing.  
 10 Q You said that there are some cases where it might  
 11 be a useful tool. What types of cases do you have  
 12 in mind?  
 13 A If a hospital was still set up to do scalp pH  
 14 testing and if a doctor was concerned about a  
 15 pattern and wanted to get more information, it  
 16 would be a reasonable thing to do.  
 17 Q Given perhaps the difference in your practice at  
 18 Kaiser and the practice at Sparrow Hospital in  
 19 Lansing, are you able to tell us what the standard  
 20 of care is with respect to fetal scalp monitoring  
 21 today in the United States?  
 22 A That's again a difficult one to answer because the  
 23 standard refers to what reasonable physicians are  
 24 doing around the country, and from my visits to

1 told me that they haven't done scalp pHs in years.  
 2 Q And ACOG?  
 3 A I'm not familiar with any recent documentation  
 4 about scalp pH testing.  
 5 Q Was there ever a guideline on that subject?  
 6 A I know it was mentioned. I don't know if there was  
 7 a specific guide point on scalp pH testing.  
 8 Q We have talked about the need for careful  
 9 monitoring in a patient like Karen Edwards. Under  
 10 what circumstances do you believe a cesarean  
 11 section should be considered by the attending  
 12 physician?  
 13 A Wow, that's an extremely broad question. There are  
 14 literally dozens of things that might lead us to  
 15 consider doing a cesarean section.  
 16 Q Having in mind Karen Edwards' case, sticking with  
 17 her presentation, her history, her facts.  
 18 A I'm not sure I can answer the question as it was  
 19 put to me. Could you maybe -- is there any way  
 20 that you can ask me that question again maybe in a  
 21 little bit different format?  
 22 Q I'll try. I don't know if I'll be successful or  
 23 not.  
 24 But you have reviewed the materials that  
 25 you have concerning her trial of labor?

1 A Yes.  
 2 Q You have seen the fetal monitor tapes and you have  
 3 reviewed her deposition, her husband's deposition,  
 4 the two physicians' depositions. Under what  
 5 circumstances in this case, if you had been the  
 6 attending physician, would you have considered  
 7 doing a cesarean section?  
 8 A Let me try to answer that question. With that,  
 9 saying that -- I'm assuming that I was the  
 10 physician caring for this -- with that assumption  
 11 that I was the physician caring for Miss Edwards  
 12 during this labor, I would be wanting to weigh the  
 13 benefits versus the risks of an operative delivery,  
 14 cesarean section in this case. And if I ever felt  
 15 at any point during the labor that the baby would  
 16 do better and the mother would do better to deliver  
 17 by cesarean section, at that point I would  
 18 recommend it.  
 19 Q And in terms of events that would have occurred to  
 20 cause you to reach that conclusion, what sort of  
 21 things are we talking about?  
 22 MR. RYAN: You seem to be going back and  
 23 forth. You're asking him on the one hand to  
 24 analyze this record and you're asking him to

1 to --  
 2 MR. BOUGHTON: within the context of this  
 3 case --  
 4 MR. RYAN: Let's stick to the --  
 5 MR. BOUGHTON: -- is what I'm trying to  
 6 do.  
 7 MR. RYAN: Let's stick with this case.  
 8 Are you asking him is there anything in this case  
 9 that occurred that would have led him to recommend  
 10 cesarean section? Is that the question?  
 11 MR. BOUGHTON: No. I'm pretty sure his  
 12 opinion is that he would not have recommended a  
 13 cesarean section --  
 14 MR. RYAN: Right.  
 15 MR. BOUGHTON: -- on this case, right,  
 16 based on the information you have?  
 17 THE WITNESS: Yes.  
 18 Q (BY MR. BOUGHTON) But what I'm trying to get a  
 19 feel for is what could have occurred within the  
 20 context of her presentation and her history that  
 21 might have caused you to consider a cesarean  
 22 section?  
 23 A Well, there -- I can give you some examples.  
 24 Q Okay.  
 25 A Since this specific patient was a VBAC candidate,

1 she had a prior cesarean section, if, for example,  
 2 she had reached five centimeters dilatation, began  
 3 having heavy vaginal bleeding, the fetal heart rate  
 4 had fallen precipitously, then I would have been  
 5 thinking very seriously at that point, "Could this  
 6 be a uterine rupture?", and I would have  
 7 recommended cesarean section at that point. And we  
 8 could come up with a dozen other scenarios for  
 9 potential reasons why in a similar patient we might  
 10 recommend a cesarean delivery.  
 11 Q Do you have in your mind a threshold or a certain  
 12 set of criteria that suggest to you the need to  
 13 consider cesarean section in VBAC candidates?  
 14 A I think we all -- "we" meaning obstetricians and  
 15 gynecologists -- have a threshold that we reach.  
 16 Very seldom is it just one factor that goes into  
 17 the decision to perform a cesarean. There are  
 18 exceptions.  
 19 The one I talked about would be one  
 20 exception. Heart rate goes down, does not go back  
 21 up. You turn the woman on her side and it doesn't  
 22 go back up. Put her on oxygen, it doesn't go back  
 23 up. This one point in itself may have contributed  
 24 that you're going to say, "Let's do a cesarean

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cases there are many factors that we're weighing in our mind at any given moment, and it's hard to define for any given obstetrician what would make them cross the threshold and say, "Okay, now I'm going to go in the room and say, Mrs. 'X', you need a cesarean section right now".

Q The problem is, isn't it, Doctor, that if you make the threshold too high, there's a danger of uterine rupture or injury to the baby?

A Well, that is an interesting concept. We're always weighing the risks versus the benefits to both the mother and the baby. We try to do the best job we can to ensure that the outcome is going to be a healthy baby and healthy mother. If we lower the threshold, we could section everybody, we could just operate on everybody. We probably would lose a lot of mothers that way from major complications also. We would probably do a little bit better with the fetal outcomes.

On the other hand, as you pointed out, if we raise the threshold to the fact we almost never do cesareans, that would not be a good idea either.

Q You have seen the depositions of the plaintiffs in this case, Karen and Joe Edwards, and their testimony that they, in fact, asked Dr. Kelly to do

consideration and then try to determine why the patient's asking for the cesarean and then put that data along with all the medical data at the time to help come to the decision.

Q So what say, if any, does the patient have under these circumstances?

A Well, the patient certainly has input, but I think the way I would address that is to say that over the course of my career I have had hundreds of women -- literally hundreds of women demand a cesarean section at some point during their labor. And generally I don't rush them to the operating room. And I don't think that makes me a bad doctor. I think that makes me a good doctor.

Q So the request of the patient's just simply a factor to be considered by the attending physician who is taking responsibility for making the ultimate decision?

A Jointly with the patient, yes. Very often what the patient's really demanding is relief. She may be in -- let's face it --

Q Pain?

A -- labor can be a very difficult thing to go through. Over the years of the hundreds of women that have demanded a cesarean section when I have

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a cesarean section during the course of this labor? Do you recall that?

A Yes.

Q If the jury finds that, in fact, they did make that request of Dr. Kelly, what does the standard of care require of Dr. Kelly under those circumstances?

A The standard of care would require that Dr. Kelly would interpret those requests in light of what was going on with the labor.

Q Okay. What do you mean by that?

A Well, I'll get right to the point. The question that seems to be coming up is if a woman in the course of her labor says, "Doctor, I want a cesarean section right now" -- we will even pass up whether she said, "I think I might like one" or "I would like to". She says, "I want a cesarean now", the question that comes up is does the doctor then tell the nurse to open the operating room? And my feeling is that is not correct.

Q Okay, that is what I want to find out. What does the standard of care require under those circumstances?

A The standard of care would require that the doctor

been caring for them, most of them are really demanding help. They want to not be suffering. Very often I will give them pain medication, give them an epidural and ten minutes later they don't want the cesarean, they are very happy and go on to have a vaginal birth.

Q Based on your reading of the literature and your experience in the practice of obstetrics, what is the median duration of the second stage of labor for women in their first pregnancy?

A This would depend very much on whether or not the woman had an epidural.

Q Considering that we're including women who are given epidurals in our group.

A With an epidural the second stage can often last three or four hours and be within the range of normal.

Q Okay. I'm asking what the median --

MR. RYAN: Well, object to the form of the question. Doesn't have any relevance if you don't assume an epidural as we have had in this case.

But go ahead.

MR. BOUGHTON: No, I'm including an epidural.

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1 number in my head for the median data for a woman  
 2 with an epidural in place.  
 3 Q (BY MR. BOUGHTON) Isn't 50 minutes what has been  
 4 published in the textbooks?  
 5 A It may have been published somewhere.  
 6 Q Williams, for example?  
 7 A May have been published. Certainly not consistent  
 8 with my experience.  
 9 Q In this case the second stage of labor was at least  
 10 two hours and twenty-five minutes and perhaps as  
 11 long as three hours, depending on how you interpret  
 12 the records as to when Karen Edwards became fully  
 13 dilated, correct?  
 14 A It seemed to me somewhere in the order of two to  
 15 two and a half hours.  
 16 Q All right. And would you agree that this was a  
 17 prolonged second stage of labor?  
 18 A No, not at all.  
 19 Q In fact, that was how it was described in the  
 20 medical records by the neonatologist, correct, as a  
 21 prolonged second stage of labor?  
 22 A Neonatologists often describe things in a very  
 23 interesting fashion, but they generally have had no  
 24 obstetrical training.  
 25 Q Well, whether that is the case or not, that is, in

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1 fact, how they described it, correct?  
 2 A Yes.  
 3 Q And certainly they were disinterested observers as  
 4 compared to Dr. Kelly and yourself, right?  
 5 A Well, I don't know that I would say disinterested.  
 6 That makes them sound in some way vile. But my  
 7 point was just that most neonatologists really have  
 8 had no obstetrical training except maybe rotating  
 9 through OB for a few weeks in medical school.  
 10 Q This baby presented in the occipital posterior  
 11 position, correct?  
 12 A Yes.  
 13 Q And the second year resident attempted to manually  
 14 rotate the baby's head?  
 15 A Yes.  
 16 Q And that, as I understand it, was done between 8:30  
 17 and 8:45 p.m.?  
 18 MR. RYAN You're asking him to verify  
 19 that?  
 20 Q (BY MR. BOUGHTON) I think that's what the records  
 21 show?  
 22 A Yes, that is what my notes show, correct, at around  
 23 8:30 p.m.  
 24 Q Do you know, based on your review of the records,

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1 A I believe the resident's note says that he was able  
 2 to rotate from direct OP to an OT or occiput  
 3 transverse position.  
 4 Q And in terms of the ultimate delivery of the baby,  
 5 do you know what position it was in?  
 6 A I didn't see the -- I did not see the position the  
 7 baby delivered in.  
 8 Q Well, you weren't there --  
 9 A Correct.  
 10 Q -- but looking in the medical records?  
 11 A Let me real quickly look at the delivery note.  
 12 Q Well, perhaps I can save you the trouble.  
 13 Are you aware of the fact that there's a  
 14 conflict in the record as to whether the baby was  
 15 delivered in occipital anterior or occipital  
 16 posterior position?  
 17 A On the delivery record it says "OA".  
 18 Q Right.  
 19 A Which would mean occiput anterior. I didn't pick  
 20 up the conflict, if there was one.  
 21 Q Again the neonatologist says, "Occipital  
 22 Posterior".  
 23 You didn't see that --  
 24 A I did not notice that.  
 25 Q -- conflict?

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1 If, in fact, the attempt to rotate was  
 2 successful at 8:30, why did the second stage of  
 3 labor go on for an additional hour and a half after  
 4 that?  
 5 A Well, that would still be very typical.  
 6 Q Why?  
 7 A With a first baby and an epidural in place, very  
 8 often the second stage can go on for two, three,  
 9 four hours, regardless of whether the baby is OA or  
 10 OP.  
 11 Q But if the woman -- now, I assume that anything is  
 12 possible, but in this situation you have a woman  
 13 who is receiving the oxytocin, who is having good  
 14 contractions -- right? According to the records?  
 15 A Yes.  
 16 Q Who is fully dilated?  
 17 A Yes.  
 18 Q Why in this situation, if the presentation is  
 19 proper, would it go on for an hour and a half?  
 20 A There are many things that contribute to the length  
 21 of the second stage. Perhaps the biggest is the  
 22 woman's pushing efforts. Some women are able to  
 23 push better than other women. Depending on how  
 24 much the epidural is still working, even a woman



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- 1 the baby out.
- 2 Q What did you observe about the pushing effort of
- 3 Karen Edwards in this case?
- 4 A That's very difficult to answer without actually
- 5 being in the room. That is the type of thing where
- 6 it really is helpful to be there and see.
- 7 Q Based on the information you have in the monitor
- 8 tapes, were you able to make any assessments of
- 9 that at all?
- 10 A Well, you could see areas where she's pushing and
- 11 areas where she's not pushing, but again it's very
- 12 difficult to assess how well the woman is pushing
- 13 from a monitor strip.
- 14 Q You say that there were areas where she was not
- 15 pushing. Can you show me in any areas where that
- 16 is the case other than the time when they directed
- 17 her to stop pushing?
- 18 A Well, I was partially referring to that. There was
- 19 an interval where she was specifically asked to
- 20 stop pushing and so you would generally want to
- 21 subtract that from the length of the second stage.
- 22 If a woman is rested, the second stage could go on
- 23 for four hours. I mean, in some cases we do that
- 24 intentionally.
- 25 Q Right.

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- 1 A For example, there are -- again this is only going
- 2 by the fetal monitor strip. There are contractions
- 3 where you can see fairly clearly on the monitor
- 4 that it appears the woman is pushing, and there are
- 5 other contractions where it appears that the woman
- 6 may be resting with the contractions.
- 7 Q Okay. Could you give -- could you indicate those
- 8 for me so we can refer to them? What panel or time
- 9 are you referring to?
- 10 A Well, let me go back and see if I can find some as
- 11 examples for you.
- 12 Q Okay.
- 13 A Okay. An example would be on Panel 28584, there's
- 14 a contraction where it looks like perhaps the
- 15 patient's not pushing. And then on Panel 28587,
- 16 there's another example of a contraction where the
- 17 patient's apparently not pushing with her
- 18 contraction. And again I can't testify that this
- 19 is certainty because if I had been in the room,
- 20 perhaps she actually was pushing. But it appears
- 21 from this that she may have not been pushing with
- 22 every single contraction.
- 23 Q Have you ever been to Lansing, Michigan, or
- 24 Sparrow Hospital?

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- 1 have been to Lansing as a child. I grew up in the
- 2 Chicago area.
- 3 Q Okay. Are you acquainted with Dr. Kelly?
- 4 A No.
- 5 Q Do you know if at Kaiser the obstetrical department
- 6 has any written guidelines concerning VBAC?
- 7 A I'm not aware of any written guidelines.
- 8 Q And same question with respect to Pitocin
- 9 induction.
- 10 A I believe we do have some type of guidelines for
- 11 Pitocin, yes.
- 12 Q Scalp pH?
- 13 A Since we no longer have the machine, I'm almost
- 14 certain we don't have any guidelines.
- 15 Q Internal monitoring?
- 16 A I don't believe we have any guidelines for internal
- 17 monitoring.
- 18 Q Do you have any reason to believe that the practice
- 19 of obstetrics by board certified specialists is any
- 20 different in Lansing, Michigan, than it is in
- 21 Riverside, California?
- 22 A No.
- 23 Q Basically obstetricians are trained to a national
- 24 standard?
- 25 A Within reason, I think that's true.

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- 1 Q We have already alluded to this, but during the
- 2 time you have been at Kaiser you have conducted a
- 3 good deal of research and published a large number
- 4 of papers, correct?
- 5 A Yes.
- 6 Q How has your research been financed or funded?
- 7 A Most of it hasn't been funded. It's just been on
- 8 my own time. I did have one large project, several
- 9 year project, which was funded by a grant from the
- 10 Garfield Institute. It was called the Garfield
- 11 Memorial Fund.
- 12 Q And what is that?
- 13 A The Garfield Fund, I believe, is administered by
- 14 Kaiser in Oakland and they fund projects that they
- 15 deem to be worthy in improving patient care.
- 16 Q You have seen. I take it, the ACOG estimates that
- 17 indicate that the cost of cesarean sections is
- 18 greater than the cost of vaginal delivery?
- 19 A Yes.
- 20 Q I think they reported that as of 1993 the average
- 21 cesarean section costs around \$11,000 and vaginal
- 22 delivery, on the other hand, costs around \$6,430?
- 23 A I don't have the numbers in my head but --
- 24 Q A difference of about \$4,500?



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1 statistics that show there is a difference and it's  
 2 in line with what you're saying.  
 3 Q I believe in 1990 you estimated that if physicians  
 4 followed your recommendations concerning your trial  
 5 of labor after cesarean section, over 200,000  
 6 cesarean sections could be avoided in this country  
 7 each year?  
 8 A Yes.  
 9 Q Which, if the math is right, that would be a  
 10 medical cost savings of about \$914 million in a  
 11 year?  
 12 A Well, that would necessitate, you know, using those  
 13 numbers for the difference.  
 14 Q Yeah, right.  
 15 A I have recently heard some doctors saying they can  
 16 do cesarean sections more cheaply than vaginal  
 17 births, and I think I believe them.  
 18 Q Do you?  
 19 A Yes.  
 20 Q Have you actually done any analysis to determine if  
 21 that's true?  
 22 A I have not personally, but there has been a study  
 23 out of Kaiser that showed that the cost saving  
 24 benefits of the -- the supposed cost saving  
 25 benefits of VBAC did not materialize.

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1 Q And was that published?  
 2 A Yes, it was.  
 3 Q And where was it published?  
 4 A I don't know, but the first author was a  
 5 Dr. Wirtshafter. I believe it's  
 6 W-i-r-t-s-h-a-f-t-e-r.  
 7 Q You say you don't know where it was published?  
 8 A No, it was not in one of the major journals and I'm  
 9 not even sure -- I just heard about it. I'm not  
 10 even sure I have actually seen the publication, but  
 11 I have heard that it was published.  
 12 Q Are you in a position to pass any judgment on its  
 13 reliability as a study?  
 14 A I have no reason to doubt that it is credible. I  
 15 have never actually looked at the cost issues. I  
 16 have -- in the studies I have done, we have never  
 17 actually looked at the cost of gloves, of  
 18 anesthesia time. That is what they actually did in  
 19 this study. Actually tried to cost out all the  
 20 different elements. I have never really had an  
 21 interest in that.  
 22 Q Is it true that the last major study reported by  
 23 you on VBAC was reported in 1994?  
 24 A No, I have just had another publication that came

1 study.  
 2 Q The 1994 study I am referring to is "Elective  
 3 Repeat cesarean Delivery Versus Trial of Labor: A  
 4 Prospective Multi-Center Study".  
 5 A Yes.  
 6 Q What is the more recent study?  
 7 A One just recently came out where we have looked at  
 8 the outcome of women with -- who were treated with  
 9 Prostaglandin for cervical ripening during trials  
 10 of labor with previous cesarean section and we  
 11 compared them to women that didn't have  
 12 Prostaglandin.  
 13 Q Where was that published?  
 14 A This was published in the American Journal of  
 15 Perinatology.  
 16 Q And when?  
 17 A About two months ago, I believe it came out, or  
 18 maybe a little less than that.  
 19 Q Going back to your 1994 study, as I understood it,  
 20 this study was a multi-center study, meaning it  
 21 included patients at all of Kaiser  
 22 Southern California hospitals; is that right?  
 23 A Yes, I believe that's correct.  
 24 Q And I think there was a total of 5,022 patients  
 25 that had a trial of labor following a previous

1 cesarean section?  
 2 A Yes.  
 3 Q And included in your findings were one that  
 4 patients whose primary cesarean section was for  
 5 failure to progress still had the lowest success  
 6 rate for vaginal delivery?  
 7 h Yes.  
 8 Q And again that was 67 percent?  
 9 A Yes.  
 10 Q And two, the incidence of uterine rupture increased  
 11 from 0.2 percent in your earlier studies to 0.8  
 12 percent in this latest study?  
 13 A Yes.  
 14 Q And three, the patients who declined VBAC and had a  
 15 repeat cesarean section had a lower percentage of  
 16 babies with five minute Apgars of "7" or less?  
 17 A I don't believe that was statistically significant.  
 18 Q Just looking at Page 3 of your report, on the right  
 19 side column there.  
 20 A Yes, in the Table 2 it shows the actual percentage  
 21 of babies with five minute Apgar scores of less  
 22 than "7". It was 1.4, eight percent, in the trial  
 23 of labor group, and 0.8 percent in the elective  
 24 repeat group. But it didn't reach statistical

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1 within the range of chance differences.  
 2 Q Your concluding remark in the report was that to  
 3 the effect that even the strongest advocate of  
 4 vaginal birth after cesarean *must* acknowledge that  
 5 a uterine rupture will occur in about 0.5 percent  
 6 to 0.8 percent of trials of labor. Careful  
 7 observation during the trial of labor is mandatory  
 8 to assure *that* the majority of those ruptures occur  
 9 without major ~~maternal~~/fetal -- major maternal or  
 10 fetal sequelae?  
 11 A Yes.  
 12 Q I have this question for you: You have indicated  
 13 that you don't believe internal monitoring is  
 14 necessary in a case of this type, nor is scalp pH.  
 15 How do you perform your careful  
 16 observation in cases of this type?  
 17 A Well, the -- there have been many people who have  
 18 been advocating doing trials of labor with no fetal  
 19 monitoring at all. No electronic fetal monitoring.  
 20 They use intermittent oscillation so they're maybe  
 21 using a fetal scope to check the baby's heart  
 22 tones.  
 23 My position has always been -- and I stand  
 24 by it -- that any woman having a trial of labor  
 25 with a previous cesarean section would have

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1 electronic fetal monitoring. But whether that's  
 2 internal or external fetal monitoring is a fairly  
 3 small point.  
 4 Q So your definition of close observation includes  
 5 what?  
 6 A Continuous electronic fetal monitoring, which means  
 7 that the woman should have a -- the baby's heart  
 8 rate being monitored continuously during the labor.  
 9 Doesn't mean that she couldn't get up and walk  
 10 around. Our own patients do that for a bit. But  
 11 for the majority of their labor the baby's  
 12 heartbeat is to be monitored electronically, the  
 13 contraction pattern should be monitored  
 14 electronically for the majority of the labor. I  
 15 believe the hospital [sic] should take place in a  
 16 hospital setting.  
 17 Q And that is it?  
 18 A Those are the major factors, yes.  
 19 Q Are you familiar with the article in the  
 20 New England Journal of Medicine, September of '96,  
 21 "Comparison of a Trial of Labor With an Elective  
 22 Second cesarean Section", lead author being  
 23 Michael J. McHonun?  
 24 A Yes.

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1 was that among pregnant women who have had a  
 2 cesarean section, major maternal complications are  
 3 almost twice as likely among those whose deliveries  
 4 are managed with trial of labor as among those who  
 5 undergo elective second cesarean section?  
 6 A I'm sorry, what was the question? Not repeating  
 7 what -- did you say was I familiar with that?  
 8 Q Yes.  
 9 A I'm familiar with that, yes.  
 10 Q And that finding in this study?  
 11 A I don't agree with it, but I'm familiar with what  
 12 they said.  
 13 Q Is there a particular reason you don't agree with  
 14 it?  
 15 A Yes.  
 16 Q And what is that?  
 17 A Can I see the paper for just a moment?  
 18 Q Yes, you may.  
 19 A My concerns about this paper had to do with the  
 20 definitions of major and minor complications. And  
 21 when we look carefully at this paper, we've found  
 22 that the conclusions could have been dramatically  
 23 different had they made their definitions a little  
 24 bit different.  
 25 For example, they define an extension of

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1 the uterine incision to be a complaint or  
 2 complication, but they define -- they define  
 3 hemorrhage up to and including necessitating  
 4 transfusions as being a minor complication.  
 5 They defined febrile morbidity up to and  
 6 including triple antibiotic therapy as being a  
 7 minor complication.  
 8 So just by how they define major and minor  
 9 complications, they could have had dramatically  
 10 different conclusions from this study.  
 11 Q They, as I understand it, defined major  
 12 complications as one, the need for hysterectomy?  
 13 A Right.  
 14 Q Two, ruptured uterus?  
 15 A Yes.  
 16 Q And, three, operative injury?  
 17 A Right. And I think with the first two I would  
 18 certainly agree there's no question about it, but  
 19 the third one --  
 20 Q Excuse me. You have no quarrel with those being  
 21 defined as major complications, correct?  
 22 A Yes, I do. I have no quarrel with the first two.  
 23 Q It's the third category, "Operative Injury"?  
 24 A Because when you look carefully at when they

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here it is. When you look carefully at how they define "Operative Injury", now, certainly if operative injury was talking about an injury to the bladder or the bowel, absolutely I would agree with that. They define operative injury to include extension of the uterine incision.

Q Which refers to what?

A That refers to the fact that the uterine incision itself, perhaps when you're doing a repeat cesarean section, extended out laterally. Well, that happens at a large number of cesarean sections. I don't consider that to be a complaint or complication. Most doctors say it requires an extra stitch or two. But probably a large portion of their major complications were this little extension.

Q That is what I was going to ask you. Does it indicate in the paper what number there is in that subgroup?

A Yes. And they break that down by the trial of labor group and the elective cesarean group.

Q Right.

A And there were a disproportionate number of these particular major complications. If you break down, for example, a complaint or complication in the

Q Okay. Now, I take it that in your opinion there was no standard of care violation in the Karen Edwards case?

A That is correct.

Q And that neither a cesarean section nor a scalp pH were required in the circumstances of this case?

A That's correct.

Q By the standard of care?

A Yes.

Q And as we have gone through the deposition, I -- have you told the reasons why you believe that is the case?

MR. RYAN: Well, I'm going to object to the form of the question. I think we have been trying to respond to your questions.

MR. BOUGHTON: He certainly has and I don't have any quarrel with that.

Q (BY MR. BOUGHTON) But would it be fair to say that you have had an opportunity to explain to me the reasons why you believe that there was no violation of the standard of care with respect to performing a cesarean section or a scalp pH in this case?

A I believe we have hit on a lot of the major issues. I'm not sure we have discussed every possible thing that could relate to whether or not a cesarean

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trial of labor versus the elective cesarean group, there were five hysterectomies in the trial of labor group and six hysterectomies in the elective cesarean group. I feel those are definitely major complications, but they were essentially equal.

The uterine rupture, there were ten in the trial of labor group, one in the elective cesarean group. Granted those are major complications.

But where the real confusing part comes up is in this, quote, operative injury group there were 41 in the trial of labor group and only 18 in the elective group. But they don't break down that 41 to say how many of those operative injuries were bowel injuries. I would grant that's a major complication. But they don't tell you that. I presume that the majority of those 41 cases were these extensions, which really are nothing.

Q So the reason you question the conclusion reposed in that paper is the way in which they define their major maternal complication, correct?

A That is right.

Q And, more specifically, how they -- what they included in the "operative injury" category of their major maternal complication definition?

would be done.

Q All right. If there's anything additional you would like to add, please feel free to do so.

A I can't think of anything specifically at this time.

Q I saw recently that you're a chairperson of the Institute of Health Care Improvements, Cesarean Collaborative Project?

A Yes.

Q What is that?

A It's a group of 29 organizations -- actually we're no longer -- that group has disbanded -- 29 health care organizations around the country that got together for 18 months to look at cesarean section rates at their institutions.

Q To what end? For what purpose?

A They were trying to find the safest rate of cesarean delivery.

Q And was there a paper or a report published by the group?

A Not yet.

Q Is that something that is in the works?

A Yes.

Q And when will that be published?

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1 Q Where will it be published; do you know?  
2 A Hopefully in JAMA. It's been submitted.  
3 Q And it's going through the peer review process now?  
4 A Yes, correct.  
5 Q Do you have a copy of the paper that's been  
6 submitted to JAMA?  
7 A Yes.  
8 Q Could I get a copy of that?  
9 A Not unless JAMA says you can get a copy of that.  
10 As you probably are aware -- and I'm not trying to  
11 be --  
12 Q I'm not --  
13 A -- I'm not trying to be nasty about that. Many  
14 journals are very specific about manuscripts not  
15 circulating. JAMA's notorious about this. And my  
16 understanding is that because of leaks of  
17 information, major projects, major papers that  
18 involve years of physicians' work have been thrown  
19 out and rejected. Not that that would happen in  
20 this case, but I don't want to take any chances.  
21 Q Do you have a timeline?  
22 A They have had it now for about a month and we're  
23 hoping to hear from them within the next month or  
24 so. I have my fingers crossed.  
25 Q Okay, I would like a copy when it is available.

1 PENALTY OF PERJURY  
2  
3 I, the undersigned, hereby certify that I have read  
4 the foregoing deposition, that I know the contents  
5 thereof and I declare under penalty of perjury that the  
6 foregoing is true and correct.  
7 Executed on \_\_\_\_\_, 1997,  
8 at \_\_\_\_\_,  
9 California.

\_\_\_\_\_  
Bruce L. Flamm, M.D.

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1 MR. BOUGHTON: That is all the questions I  
2 have.  
3 MR. RYAN: I don't have anything.  
4 MR. BOUGHTON: Okay, good.  
5 (In a discussion off the record  
6 it was stated by Mr. Boughton  
7 that all provisions are waived;  
8 that he is to receive the original  
9 and one copy plus a condensed.)  
10 (Plaintiffs Exhibits 1 and 2  
11 marked for identification.)  
12 (Deposition of Bruce L. Flamm, M.D.,  
13 F.A.C.O.G., concluded at 12:10 p.m.)  
14 --oOo--  
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1 REPORTER'S CERTIFICATE  
2  
3  
4 I, DENISE R. PETERSEN, CSR #3833, a Certified  
5 Shorthand Reporter in and for the State of California,  
6 do hereby certify:  
7 That prior to being examined, the witness whose  
8 deposition appears hereinbefore was duly sworn to testify  
9 the truth, the whole truth, and nothing but the truth;  
10 That the testimony of the witness and all  
11 objections made at the time of the examination were  
12 recorded stenographically by me;  
13 That the foregoing transcript is a true record  
14 of the testimony and all objections made at the time  
15 of the examination;  
16 I further certify that I am neither counsel for  
17 nor related to any party to said action, nor in  
18 anywise interested in the outcome thereof.  
19 IN WITNESS WHEREOF, I have subscribed my name  
20 this 5th day of June, 1997.  
21  
22  
23  
24

\_\_\_\_\_  
Denise R. Petersen

Certified Shorthand Reporter

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**THE VIDEOTAPED/TELEPHONIC DEPOSITION OF: BRUCE FLAMM, M.D. , TAKEN  
ON: 05/01/97**

**JILIO & ASSOCIATES**

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