IN THE COURT OF COMMON PLEAS

OF CUYAHOGA COUNTY, OHIO

IRENE KARR, Executrix of the Estate of Ray Karr,

Plaintiff,

vs.

DR. FREDERICK SCHNELL, et al.,

Defendants.

Doc. 447

Case No 175790

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Deposition of RICHARD W. WATTS, M.D., a witness herein, called by the Plaintiff for examination under the statute, taken before me Heidi L. Geizer, a Registered Professional Reporter and Notary Public in and for the State of Ohio, pursuant to notice and stipulations o counsel, at the offices of Reminger & Reminger Co., L.P.A., The 113 St. Clair Building, Cleveland, Ohio, on Monday, July 6, 1992, at 9:00 o'clock a.m.

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COPY

APPEARANCES:

On behalf of the Plaintiff:

Don C. Iler Co., L.P.A., by
NANCY C. ILER, ESQ.
1370 Ontario Street, Suite 1640
Cleveland, Ohio 44113
696-5700

On behalf of the Defendant Dr. Schnell:

Reminger & Reminger Co., L.P.A., by
JOHN R. SCOTT, ESQ.
The 113 St. Clair Building
Cleveland, Ohio 44114-1273
687-1311

On behalf of the Defendant Dr. Tank:

Jacobson, Maynard,
Tuschman & Kalur Co., L.P.A., by
WILLIAM BONEZZI, ESQ.
1600 North Point Tower
1001 Lakeside Avenue
Cleveland, Ohio 44114
736-8600

(Thereupon, Watts Deposition Exhibits 1 and 2 were mark'd for purposes of identification.)

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RICHARD W. WATTS, M.D., of lawful age, called for examination, as provided by the Ohi Rules of Civil Procedure, being by me first duly sworn, as hereinafter certified, deposed and said as follows:

EXAMINATION OF RICHARD W. WATTS, M.D.

BY-MS. ILER:

MS. ILER: Let the record reflect that we are taking the deposition of Dr. Watts who is being presented as an expert on behalf of Dr. Schnell in the above-entitled case.

Q. Dr. Watts, I am Nancy Iler. I represent Irene Karr, who is the wife and administratrix of the estate of Raymond Karr.

Doctor, if at any time you don't understand my question or you need a document, medical records, or whatever to review in orde to answer that question, I wish that you would take the time to look at it or tell me that you don't understand my question, so that when you do answer my question you have understood it

and you have had all the information you need to answer that.

Can we have that agreement?

A. Yes, we do.

Q. Doctor, would you please state your name for the record?

A. Richard Ward Watts, M.D.

Q. Doctor, and your office address?

Q. And doctor, how long has your office been located on Rocky River Drive?

A. 40 years.

Q. Doctor, I am handing you what has been marked as Watts Number 1. Is that an updated copy of your curriculum vitae?

A. It is.

MR. SCOTT: Nancy, I am going to slip out and get my records.

(Discussion off the record.)

Q. Doctor, does your curriculum vitae

outline your medical education?

A. Yes.

Q. Doctor, according to your internal medicine?

Q. And have been so board certified since 1955?

A. Yes.

Q. And you have listed here also a subspecialty board in cardiovascular disease. Was there a board certification in cardiovascular disease?

A. Yes.

Q. And was that a written test or an oral test or both?

A. Both.

Q. And doctor, can you please tell me what present positions you hold?

A. I am the medical director of the Kemper Coronary Unit in Fairview General Hospital. I am chairman of the critical care committee in the same hospital. I am also chairman of the ethics committee of Health Cleveland, which is the combination of Fairvie

and Lutheran Medical Center.

Q. Okay. And you also have a private practice, is that right --

A. Yes.

Q. -- where you see patients?

A. I do.

Q. Doctor, what duties do you have as medical director of the Kemper Cardiac Unit at Fairview General Hospital?

A. This involves the review of all of the patients who are admitted to the unit. It also involves the supervision of the educational facilities both for doctors and nurses in the unit, and indirectly or directly I am also involved in the quality control of the care rendered in the unit.

Q. Doctor, for purposes of the record what is the cardiac care unit?

A. This is the specialized unit which is dedicated to the care of heart disease, usually, of course, myocardial infarction, but it could be more broad such as acute pulmonary edema, unmanageable arrythmias, cardiogenic shock, things of that sort.

Q. What do you do as the medical

director there? Do you set policies as far as

A. Yes.

Q. How do you do that?

A. This is done by my proposing to the cardiology section various activities and also various protocols for the treatment, for instance, of more recently has been the institution of thrombolytic therapy for acute myocardial infarction, and I provide the protocols, and then we agree upon them in a discussion of the other cardiologists.

Q. And doctor, when you say that you provide the protocols, what do you mean by that?

A. Well, I derive them from the literature or from talking to other cardiologists around the country. In the case of the thrombolytic protocol, it was derived by personal contact with Dr. Ganz at Cedar Sinai Hospital in Los Angeles, but other protocols were derived either by my own knowledge or by talking with other people in the field or by consulting the medical literature.

Q. Okay. And doctor, when you make up

a protocol, is that a written document whereby certain patients should be treated a certain way?

A. Well, we usually do it by way of an order sheet which is a preprinted order sheet, and then the physician can modify it any way he thinks is appropriate for his own patient. But it gives a framework so that the physician doesn't have to recapture all of the things that he would like to do, and he can consult the order sheet and then elaborate or modify it any way he chooses to do.

Q. Okay. And doctor, when you refer to the order sheet, you mean the doctor or the physician's order sheet?

A. Yes.

Q. Orders that he would give his patient; is that right?

A. No. The order sheet that guides the nurses in the treatment of the patient.

Q. Okay. And doctor, you have been the medical director of the cardiac care unit at Fairview since 1980?

A. Yes. That was when it was officially designated such, but I was the

founder of it in 1964, so in effect I have been the medical director all those years, because I was the one who started it.

Q. I see. Now, doctor, why do you feel it is important to have a protocol in treating certain patients?

A. Well, these are acutely ill patients. I think we need to have everything going in their favor that we can, and I think that an orderly approach to the acutely ill patients usually gives a better result than things that are done in a somewhat more haphazard manner and then generates a feeling at one point or another in the care of a patient that if they had only thought of and done things differently they might be getting a better outcome.

Q. And are those protocols that you have initiated and instituted at Fairview Hospital, are those kept in a central location? Are they kept in a binder or a book somewhere?

A. Yes.

Q. Okay. And where are they usually kept at Fairview?

A. I think it is kept in the nursing office, and I know it is also kept on the unit.

Q. And doctor, do you provide any teaching to the nurses inasfar as certain diseases involved that the patients would have in the cardiac care unit?

A. I think the most important teaching I do for the nurses is to direct the advanced cardiac life support training programs, which we just did last week and also last month. I am an affiliate faculty member of the Heart Association in advanced cardiac life support. So that we want to have all our nurses certified in advanced cardiac life support so they will have a good fundamental knowledge about how to take care of acutely ill patients.

Q. Okay. Doctor, what is involved with the advanced cardiac life support?

A. Well, this is the evaluation and initial support of the patient when they are without pulse and respiration. That is basic life support. But on top of basic life suppor is the capability of providing endotracheal

intubation, starting intravenouses, giving vasoactive drugs, recognizing arrhythmias, giving direct current shock.

So these are life-saving measures which we also have trained our paramedics. I was the founder of the paramedic program in the six suburbs that are in the region of the western part of Cuyahoga County.

Q. And doctor, the course that you teach, the advanced cardiac life support, is that sponsored by the Heart Association?

A. Yes. The original material was sponsored by the Heart Association, and they have continued to add things to it. The regional program dates back to the late 1970s, and of course a lot of advances since then. So the American Heart Association's responsibility is to hold meetings every several years with the appropriate experts around the country to add or modify the program, and then we incorporate that in our teaching locally as it comes out from the American Heart Association.

Q. And doctor, where do you hold staff privileges currently?

A. Besides Fairview, I am also on St.

John West Shore, Lakewood, Lutheran Medical Center, and MetroHealth.

Q. Have you ever held privileges at Deaconess Hospital?

A. No.

Q. And doctor, do you hold any administrative positions or belong to any committees at those hospitals?

A. Well, I have already mentioned some of the things. One other thing I should mention I now recall, I am also the director of the cardiac rehabilitation program at Fairview General Hospital.

Q. Okay. And doctor, how much of your time do you spend involved in your hospital committees and, for instance, in the advanced cardiac life support work, how much time?

A. Well, over the years it is probably less than five, in the past month it's been three full days, but I may not be involved in another advanced cardiac life support program for four months or six months.

Q. Doctor, do you see patients every day in your office on Rocky River Drive?

A. Five days a week.

Q. And doctor, what type of patients do you see in your practice?

A. Well, they are predominantly in cardiology, of course, and cardiology is predominantly ischemic heart disease in its various manifestations. We don't have much in the way of rheumatic heart disease anymore. W have some patients with cardiomyopathy. Hypertension, of course, is a very common form of heart disease.

Those would be the main ones. Congestive heart failure, of course, is spread across the whole spectrum of diagnostic categories, and that is a very large part of our practice is congestive heart failure.

Q. So doctor, as far as internal medicine is concerned, you really focus more o your subspecialty of cardiology?

A. Yes. The one exception would be that if a patient of mine who was primarily a cardiac patient has internal medicine problems arthritis, diabetes, and things of that sort, peptic ulcer disease, I don't send them off to three different specialists when, since I am board certified in internal medicine, I feel I

am competent to handle the other ancillary problems within the setting of the cardiology problem.

Q. And doctor, can you give us a definition of cardiology?

A. Well, it is the study of the diseases of the heart and the circulatory system, their diagnosis, and their management.

Q. Okay. But you don't perform surgery?

A. No.

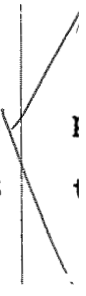
Q. Okay. And I think you mentioned earlier, doctor, that you treat coronary arter disease? Is that --

A. Coronary artery disease.

Q. What is that, doctor?

A. Well, that is disease of the

coronary artery may have other diseases, but in this time in history arteriosclerosis is far



A. Yes.

Q. Doctor, you said at the bottom of your CV, it states, author of 15 scientific publications.

A. Yes.

Q. Is that right? Do any of those publications haue anything to do with the issues in Mr. Karr's case?

A. I would think that the only articl that immediately comes to mind would be an article which has to do with the preoperative evaluation of a cardiac patient who is undergoing noncardiac surgery.

Q. And doctor, what's the name of the article? Where is that published?

A. That is the name of the article, and it is published in the University of Santo Tomas in Manila in the Philippines.

Q. And do you have a copy of that paper, doctor?

A. Yes.

Q. And would you give it to Mr. Scott so he can give it to me?

A. I shall.

Q. And doctor, did you do some work i

the Philippines?

A. Well --

Q. I see that --

A. In the summer of 1969 I was invite to the Philippines to give four different talks. A good friend of mine was the head of cardiology at University of Santo Tomas, and s I gave that, as well as three other talks, and he wanted to know if I published them, and I said I hadn't. He said, I'd be delighted to have it published in our medical bulletin. So I provided the manuscripts, he had them published.

MS. ILER: Mr. Scott, I'd make a request for that --

MR. SCOTT: Okay.

MS. ILER: -- publication, please.

Q. Doctor, you are not involved in an medical research currently, are you?

A. No.

Q. And do you hold any academic. appointments, doctor?

A. Yes. I am the assistant clinical professor of medicine at Case Western Reserve University School of Medicine.

Q. And how long have you held that position, doctor?

A. 20 years, I guess.

Q. And what types of students do you

also meet medical students at MetroHealth to teach them to read electrocardiograms. I do that three months a year.

A. Yes.

A. Well, I graduated in 1946 and he graduated in 47, so he just celebrated his 45th reunion.

Q. And did Dr. Schnell ask you to be an expert on his behalf --

A. No.

Q. -- in this case? Who contacted

you?

A. Mr. Scott.

Q. Okay. Do you and Dr. Schnell treat patients independently or do you refer patients to Dr. Schnell, does he refer patients to you?

A. Pretty much independent. Our areas are sort of adjacent but don't overlap. He probably has a couple of patients that I used to treat, I don't know. I have a couple of patients that he used to treat. So we have perhaps once a year communication either in writing or by telephone.

Q. And have you ever shared an office with Dr. Schnell?

A. No.

Q. Do you know Dr. Tank?

A. Only by name. I have talked to hi once or twice on the phone, again, about mutua patients. I don't -- I have not knowingly eve seen him.

Q. But you have had patients -- you know that Dr. Tank is a neurosurgeon?

A. Yes.

Q. And you have had patients that hav been treated by Dr. Tank and you have

communicated with him concerning those patients?

A. Yes.

Q. Do you know Dr. Suppes?

A. Yes.

Q. And how do you know him?

A. He was president of the Academy of Medicine some years ago. He and I were on the trauma committee about 15 years ago. I knew of him mainly through that. Actually I know his associate Dr. Kious better, because Dr. Kious was trained at Fairview, and so I have known him since his training days, which must be 15 or so years ago.

Q. And do you know Dr. Bohl?

A. No.

Q. Doctor, do you know Dr. Likavec?

A. No.

Q. Dr. Likavec is a neurosurgeon at MetroHealth Medical Center.

A. I don't know him.

Q. Have you spoken with Dr. Schnell concerning this case?

A. No.

Q. Have you spoken with Dr. Suppes

concerning this case?

A. No.

Q. Doctor, have you reviewed medical negligence cases before this case?

A. Yes.

Q. And how many cases have you reviewed over the years?

A. In the last five years it probably averages about eight to ten cases a year.

Q. What types of cases do you review?

A. Well, these are all cardiology cases. This case is not too dissimilar. They usually involve a fatality and either somebody sent home from the emergency room inappropriately or some untoward event that occurs during a hospital stay.

Q. And have you reviewed cases for the firm of Reminger & Reminger before?

A. Yes.

Q. And have you reviewed cases for Mr Scott before?

A. Yes.

Q. And how many cases have you reviewed for Mr. Scott?

A. I would have to guess, I would

think four or five, something like that.

Q. And all those cases, those obviously were on behalf of physicians?

A. Yes.

Q. And in all those cases did you find that the physicians' care was appropriate?

A. No.

Q. Okay. Have you been to court to testify?

A. Yes.

Q. How many times have you been to court?

A. That probably averages about once a year. I think the last time I was in court was actually about a year and a half ago. I don't think I testified in court during 1991.

Q. And on whose behalf did you testif in court the last time?

A. State of Ohio.

Q. And what was that case about?

A. Workmen's Compensation, a retired policeman was suing the Workmen's Compensation alleging that his coronary disease was due to his employment as a policeman for the City of Cleveland. I didn't feel that that was the

case, and so I testified for the State of Ohio.

Q. And have you reviewed medical negligence cases for other attorneys in the firm of Reminger & Reminger?

A. Yes.

Q. Which attorneys are those?

A. Marc Groedel, Pete Marmaros, James Malone. I think those are the only ones.

Q. And those are on behalf of physicians?

A. Yes.

Q. Those cases? Do you review any cases on behalf of patients in medical negligence cases?

A. I have.

Q. And which attorneys have you worked with, which plaintiffs' attorneys?

A. DeChant of Stewart & DeChant. A fellow by the name of Fazio on a patient several years ago, on the part of a deceased patient several years ago.

Those are the only two plaintiffs' cases that immediately come to mind.

Q. And do you review medical

negligence cases for any other defense firms i the city?

A. Yes.

Q. And which firms are those?

A. Jacobson, Maynard, Tuschman & Kalur; Arter & Hadden. I think those are the main ones.

Q. And which attorneys have you worked with over at Jacobson, Maynard, Tuschman & Kalur?

A. Mainly Steve Charms.

Q. And doctor, are you insured by Physicians Insurance Exchange?

A. Yes.

MR. BONEZZI: Objection.

MR. SCOTT: Objection.

A. I am.

Q. So doctor, is it fair to say that most of your review of medical negligence cases is on behalf of physicians?

A. Yes.

Q. Doctor, what do you charge for your review of medical negligence cases?

A. $200 an hour.

Q. And is that $200 an hour for

deposition time, also?

A. No, that is $300.

Q. And for your in-court time?

A. $400.

Q. $400 an hour?

A. Yes.

Q. Doctor, when were you contacted to review this case?

A. I think it was well over a year ago. I don't recall exactly.

Q. And do you keep --

(Telephone interruption.)

MR. SCOTT: Go ahead.

(Recess taken.)

Q. Doctor, I have had marked as Watts Exhibit Number 2 a duces tecum which has instructed you to bring certain materials with

not communicate this to you, but I'd like to g through it at this point.

It asked you to bring with you today all materials you reviewed in connection with the above-entitled case. Can you tell me,

A. No.

Q. Can you tell me what you received to review in this case from your memory?

A. Don't you have the copy of my letter that I sent to Mr. Scott? That lists them all. In fact, that looks like it right there.

Q. Right.

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(Thereupon, Watts Deposition Exhibit 3 was mark'd for purposes of identification.)

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as Exhibit Number 3. Does that help you in telling us what materials you reviewed in this case?

A. It does.

Q. Which materials did you review in this case?

A. Well, the office records of Dr. Schnell relevant to Ray Karr; the Deaconess Hospital records of Ray Karr May 2 to 5, 1988; the office records of Dr. Tank; the autopsy

October 4, 1990; Dr. Tank's deposition of October 31, 1990; and Dr. Singer's letter of June 26, 1991.

Q. Okay. And doctor, when you reviewed -- did you read in the entirety the deposition of Dr. Schnell?

A. It's been so long since I read it

that you and I have just talked about, who are you, where you have been trained, and so on.

materials that you have just outlined for us did you take any notes?

A. Yes, I took some notes.

Q. And do you have those notes in your office or in your file?

A. I have them at home.

Q. I would ask you to produce those to

Mr. Scott so I can take a look at those.

A. I shall.

MR. SCOTT: I will make some notes

THE WITNESS: Okay.

Q. Doctor, the second item that I hav asked you to bring with you today are all medical literature, periodicals, books, et cetera, that you reviewed in connection with this case.

Did you review any such medical literature?

A. No.

Q. And why was that?

A. Well, there wasn't anything so unusual about this case that caused me to consult any articles or textbooks. It is the kind of patient I deal with all the time.

Q. And since writing your letter or your letter report of December 8 of 1991 have you consulted with the medical literature?

A. No.

Q. I have also asked you to bring wit you an updated copy of your curriculum vitae, and we have had that marked as Exhibit Number 1.

And I asked for all reports and notes made in connection with this case. And doctor, is Exhibit Number 3 the only report that you have written in this case?

A. Yes.

Q. And that is a letter report to Mr. Scott dated December 8 of 1991?

A. Yes.

Q. And you said that you have made some notes in your review in this case, and you are going to give those to Mr. Scott and he can give those to me?

A. I shall.

Q. Doctor, for purposes of the record, you did not review the Cleveland Clinic record for Mr. Karr?

MR. SCOTT: Doctor, may I answer? If he has a recollection, and then I can assis in that.

A. I am not sure that I did. If I di -- well, let me put it this way. If they were in Dr. Schnell's office records then I would have reviewed it. I have a recollection of having seen something from the clinic, but I don't know whether it was Dr. Schnell's

comprehensive evaluation of what they sent to him or whether it was the actual material.

Q. Doctor, you haven't reviewed any X-rays or myelogram films in this case, have you?

summaries of this case, factual summaries by Mr. Scott?

me to review the evidence he had a several-page summation of the essential points of the case as he saw it.

MS. ILER: Okay. And I would ask that that be produced, Mr. Scott.

Q. Doctor, in your review of the Ray Karr case, did you speak with any physicians about your review?

A. No.

Q. Doctor, what medical journals do you subscribe to?

A. American Journal of Cardiology, Annals of Internal Medicine, Archives of Internal Medicine, Circulation, Progress in Cardiovascular Diseases, Journal of the

American Medical Association, Mayo Clinic Bulletin, the Bulletin of the Royal Society of Medicine. I think that comprises everything.

Q. Doctor, I'd like to direct your attention now to Mr. Karr's admission to Deaconess Hospital on May 2 of 1988, and I'd like to talk about his preoperative condition. Okay? I realize you do not have your records in front of you, but I think Mr. Scott has the medical records in case you need to consult those.

Doctor, on May 3 of 1988, what was Mr. Karr's diabetic condition?

A. May 2?

Q. Yes, or the 3rd?

A. The day after the operation?

Q. The day --

A. Of the operation?

MR. SCOTT: I think it is the day of, isn't it?

A. Let's take a look. I thought he was admitted on the 2nd.

Q. Let me do this. Let me rephrase the question and make it clearer for us.

A. The day before the operation?

Q. Yes. I'd like to know what the condition of his diabetes was on May 2, which was the day before his back surgery.

A. Controlled with insulin.

Q. Do you know, in your review of the records did you note how long he had been a diabetic?

A. Well, rather than work from memory let's take a look at the record.

Q. Sure.

A. I know he had been a diabetic for long time. There should be the consultation o Dr. Schnell.

MR. SCOTT: All right. Do you wan the admission record?

THE WITNESS: Yes.

MR. SCOTT: Here is Schnell's consult.

Q. Let me see what you are looking at doctor.

A. Yes. This is the --

Q. Okay. You know what I will do, doctor, I will have that marked as an exhibit so we know what you are speaking with.

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(Thereupon, Watts Deposition Exhibit 4 was mark'd for purposes of identification.)

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Q. Doctor, I'm handing you what has been marked as Exhibit Number 4. And that is Dr. Schnell's consultation record on Mr. Karr?

A. Yes.

Q. Did you review that in preparation for your letter report of December 8?

A. I did.

Q. Now, doctor, with that information, you were referring to that particular consultation report when I asked you what Mr. Karr's diabetic condition was on May 2; is that right?

A. That's right.

Q. Okay. And can you tell me what Mr. Karr's condition -- what the condition of his diabetes was on May 2 of 1988?

A. Well, Dr. Schnell has termed his diabetes as diabetes mellitus on insulin, dash, poor control.'

Q. And what does that mean to us, doctor?

A. Well, he had required increasing amounts of insulin partly because of poor dietary compliance.

Q. And how long had Mr. Karr been treated for his diabetes?

A. Since 1969, and he went on insulin in 1975.

Q. And doctor, what type of treatment was given for his diabetes?

A. Well, since 1975, besides diet, he was taking insulin.

Q. And doctor, was Mr. Karr's diabete a contraindication to the surgery of May 3 of 1988?

A. No.

Q. Why not?

A. Well, first of all, it was recognized; second of all, it was under treatment; third of all, Dr. Schnell was following it, was prepared to follow it postoperatively and to make suitable adjustments of insulin as were required in the postoperative period.

Q. And when you say Dr. Schnell was prepared to follow the diabetic condition

postoperatively, what do you mean by that?

A. Checking blood sugars and giving the appropriate amount of insulin.

Q. And doctor, what type of effect does that diabetes of since 1969 have on Mr. Karr's body?

A. Well, he had developed diabetic retinopathy, which was first recognized in 1979, and had been controlled by laser treatments to the retina.

Q. And doctor, for purposes of the record, what is retinopathy?

A. That is primarily disease of the blood vessels of the retina in which they develop aneurysms and hemorrhages, and the hemorrhages destroy that portion of the retina, so progressive loss of vision is the result.

Q. And that's caused by the diabetic condition?

A. Yes.

Q. And doctor, what was the condition of Mr. Karr's hypertension preoperatively?

A. It was under control with the use of several different medications.

Q. And how long had Mr. Karr had

hypertension?

A. Since 1969.

Q. And you are looking at Exhibit Number 4?

A. 4. I am.

Q. Doctor, what is hypertension?

A. That is an elevation of the blood pressure, arterial blood pressure.

Q. And in Mr. Karr, what was the caus of his hypertension?

A. It probably was at least partly due to diabetes with diabetic involvement of the kidneys, but it may well have had other factors, as well.

Q. And how long had Mr. Karr had hypertension?

A. That was first recognized in 1969, which coincided with the onset of the diabetes.

Q. Okay. And how was Dr. Schnell treating Mr. Karr's hypertension?

A. He was taking a number of medications. They are not listed here, but perhaps --

MR. SCOTT: Do you want them,

Nancy?

MS. ILER: Yes.

A. He was taking Capoten, hydrochlorothiazide, HCTZ, Inderal, Calan SR. I believe those are the four antihypertensives that he was taking preoperatively before hospitalization.

He also was given Hydrallazine on May 2. I'm not -- I don't recall now whether he was taking that before admission.

Q. And was Mr. Karr's hypertension a contraindication to his back surgery?

A. No.

Q. Why not?

A. Well, again, it had been controlle fairly effectively over a long period of time, and again, we do have various agents to give t control hypertension in the postoperative period. Even in a patient who can't take anything by mouth we could give medication sublingually or transcutaneously or intravenously to help control the blood pressure.

Q. Is it important for a physician such as Dr. Schnell to know about Mr. Karr's

diabetes, about his hypertension, knowing that Mr. Karr is going to surgery the next day?

A. Yes.

Q. And why is that?

A. Well, we can best control the postoperative complications if we are aware of them preoperatively and are prepared to evaluate and respond to the situations as they develop.

Q. And what postoperative complications would a physician or should Dr. Schnell have been looking toward?

A. Well, an operation, of course, would cause the insulin requirement of the diabetes to increase tremendously, so that he would have to be prepared to get frequent blood sugars and give insulin at the appropriate doses, probably a larger dose than he was taking in the normal state before the operation.

And with his long-standing hypertension, of course, control of his blood pressure so it did not go too high would be another of the concerns about his postoperative period.

Q. Doctor, what was the effect of Mr. Karr's hypertension on his body?

A. It would cause enlargement of the heart.

Q. And how does that occur?

A. Well, the heart is a muscle, and if the muscle works harder it gets bigger, just like lifting weights or doing push ups, except in the case of the heart, since it is working all the time against increased pressure, it also enlarges.

Q. How does it work? Can you explain for me how it works under increased pressure? Is that due to the hypertension?

A. Yes.

Q. And how does that cause --

A. Well, when the heart ejects blood into the artery, it is facing a higher degree of resistance in the forward flow of the blood, so it has to exert more energy to pump the blood out of the heart against that greater resistance.

Q. And was that mechanism known by Dr. Schnell?

A. Yes.

Q. And how did Mr. Karr's diabetes affect the condition of his body preoperatively?

MR. SCOTT: You asked that once, Nancy, and doctor responded about the retinopathy.

Q. Is the condition of Mr. Karr's diabetes, the effect on his body limited to just his eyes?

A. Yes.

Q. And how did you determine that, doctor?

A. By reviewing the Deposition Number 4 of the consultation by the treating physician, Dr. Schnell.

Q. And what did that tell you?

A. Well, on page two he lists the diagnoses, and I have already referred to diabetes mellitus on insulin, dash, poor control.

The other thing that he lists is diabetic retinopathy. Of the eight diagnoses, those are the only two that are relevant to the diabetes.

Q. I see. And doctor, the fifth

diagnosis under the consultation record on page two is minimal nonobstructive coronary disease, dash, nonsymtpomatic.

What did you understand that to be?

A. He had a cardiac catheterization at the Cleveland Clinic in 1981 which showed minimal irregularities of the right coronary artery and the left anterior descending without obstruction and a 40 to 50 percent obstruction in the posterolateral branch of the circumflex coronary artery. And the next sentence goes on to say, none of these lesions were thought to be hemodynamically significant.

He hadn't had any symptoms he had reported to Dr. Schnell since that time that indicated that he was having any symptoms relevant to the coronary circulation.

Q. Doctor, what is minimal nonobstructive coronary artery disease in layman's terms?

A. Well, it means that the cbronary artery is not totally normal, but it is not causing a significant enough narrowing to produce any symptoms.

Q. What symptoms would you expect to

see?

A. The classic symptom, of course, is angina.

Q. Which is what, doctor?

A. That is a pressive feeling in the center of the chest, usually provoked by anything which causes the heart to work harder most commonly, of course, exertion, excitement eating, exposure to cold. All of the things that increase heart work may provoke the symptom of angina.

Q. Any other symptoms, doctor, that you would expect to see?

A. Shortness of breath on exertion sometimes is what we call an anginal equivalent. It is not the oppressive chest pain, but it is provoked by impaired circulation to the heart muscle due to coronar disease.

Q. Doctor, what's a cardiac clearance

A. Cardiac clearance is the clearance for surgery of a patient who has known circulatory diseases.

Q. Okay. And why was a cardiac clearance ordered on Mr. Karr preoperatively?

A. Because of his medical conditions of hypertension, diabetes, and the past history, of course, of the internal carotid endarterectomies, which is a circulatory condition, and the vascular insufficiency of the lower extremities,

So all of these things, of course, mandated a cardiac or in this case circulatory clearance for elective surgery.

Q. And doctor, what does a cardiac clearance involve?

A. Well, it most importantly starts off with the history of the patient, the physical examination of the patient, and the review of the laboratory data.

Q. When performing a cardiac clearance, doctor, what type of history do you want to elicit from the patient?

A. Certainly the past history. In Mr Karr's case the past history of hypertension and diabetes, the past history of the cardiac catheterization, the past history of the carotid endarterectomies, the fact that he had some leg symptoms when he walked. So those would be all pertinent events in the history.

Q. And doctor, what did those events in the history tell Dr. Schnell about Mr. Karr's cardiac condition?

MR. SCOTT: I'm going to object just for the record, and then you may continue to question concerning the medical clearance, since plaintiff's expert, Dr. Singer, has not listed medical clearance as one of the areas allegedly deficient in the care of Dr. Schnell.

You may answer if you can, doctor.

A. What was the question?

MR. SCOTT: If you remember the question.

Q. I forgot it, too. Heidi, would you mind reading that back for me, please?

(Record read.)

Q. Doctor, would you like your answer read back where you listed those particular events?

A. Well, I think I can do it right from the record here.

Well, it told Dr. Schnell that Mr. Karr had hypertension which had required quite a complicated medical program, and it told Dr. Schnell that Mr. Karr had diabetes mellitus and

had symptoms of impaired circulation to the legs on exertion, and had had cardiac catheterization which showed that his coronary arteries were not normal,' although not significantly obstructed, and that he had had endarterectomies of both carotid arteries.

Q. Doctor, does Mr. Karr's diabetes have any effect on his heart?

A. It was not evident in the preoperative clearance that it had had an effect on his heart:

Q. In a patient who has had diabetes of the duration that Mr. Karr did, what type of changes in the heart, if any, would you expect tu see as an internal medicine physician?

A. Well, diabetes, unfortunately, increases the rapidity of the onset of arteriosclerosis in the coronary circulation.

Q. Doctor, what in plain language is arteriosclerosis?

A. Hardening of the arteries.

Q. So just to summarize it, in Mr. Harr, the patient who has had diabetes as long as Mr. Karr, you would expect to see some hardening of the coronary arteries; is that

right?

A. Yes.

Q. Okay. And doctor, what significance, if any, was Mr. Karr's leg symptoms as you referred to them? I think on page one of Exhibit Number 4 it states, at the time of his last examination prior to referral to Dr. Tank he was found to have some decreasec leg pulses associated with left calf claudication.

What does that mean to you as a physician?

A. Impaired circulation to the legs.

Q. Caused by, what?

A. Well, the next sentence indicates that it was not certain that his claudication was due to impaired circulation or impaired neurologic function, because he had disk disease, and disk disease causes pain down the leg.

Q. Doctor, in performing a cardiac clearance, you stated part of that was to do a physical examination; is that right?

A. Right.

Q. And what things would you want to

be examining as a physician?

A. Well, certainly you want to look in the eyes.

Q. And what would you be looking for?

A. Evidence of hardening of the arteries and, of course, in his case the status of the diabetic retinopathy.

One would examine the neck, the status of the circulation in the carotid arteries; blood pressure, of course; listening to the lungs for any sign of congestion; listening to the heart for any abnormal heart sounds or murmurs; the checking the abdomen to detect any enlargement of the liver or the abdominal aorta; and checking the legs for pulses and the presence of abnormal sounds.

Q. And that would be an assessment of the circulation of the legs?

A. Yes.

Q. Your physical examination when performing a cardiac clearance seems to be directed to the circulation, and why is that?

A. Well, that's where the problems lie. I didn't mean by my previous answer to say that we wouldn't do other things. I check

everything I can, but obviously we are focused predominantly on the circulation in this patient.

Q. Why is that?

A. Because we know he has known hypertension and peripheral arterial disease i the form of carotid, and probably in the legs.

Q. And does that cause -- does that present an increased risk, those conditions present an increased risk for surgery?

A. Yes.

Q. And how do they do that?

A. Well, with impaired circulation, o course, he is at somewhat greater risk than th person who comes in with a normal circulatory system.

Q. And why is he at increased risk, doctor?

A. Why is he at increased risk?

Q. Yes.

A. Because he had evidence for impaired circulation in the legs certainly and the past history of operation on the carotid arteries, so we know his circulatory system is impaired in multiple locations.

Q. And how does his going to surgery affect those conditions? How does it --

A. Well, we hope it doesn't affect it at all, but of course these arteries are not normal arteries, so that we would be concerned about the support of the circulation in terms of the blood pressure.

He would be at greater risk of complications if his blood pressure were to go too low compared to a person with normal' circulation who could tolerate a low blood pressure for a longer period of time and probably to a greater degree than Mr. Karr could.

Q. And doctor, part of your cardiac clearance is also review of the laboratory data available is that right?

A. That's right.

Q. And what type of data would you be looking at?

A. Chest X-ray, electrocardiogram; blood chemistries, arterial blood gasses.

Q. Doctor, what would you be looking for in a chest X-ray on a patient like Mr. Karr going to surgery?

A. Well, two things. One would be evidence for cardiac enlargement and the other would be evidence for congestion in the lungs.

Q. And did you review the chest X-ray of Mr. Karr?

A. I believe it is in here. Do you mean the report?

Q. You didn't review the actual film itself?,

A. I didn't see the film.

Q. Did you review the radiologist's report?

A. Yes, I did.

Q. Okay., And what did that reveal, doctor?

A. Basically, normal.

Q. And doctor, are you referring to the chest X-ray of 5-2-88?,

A. I am,.

Q. And does the impression read PA an lateral views of the chest show the heart and mediastinal structures to be normal, no,active lung disease is identified?

A. It does.

Q. Would there be anything else that

you wbuld be looking for in that chest X-ray?

A. No.

Q. Let's move on to the EKG. Why is an EKG necessary in a cardiac clearance?

A. Well, that tells the electrical status of the heart muscle and would detect enlargement of the heart and also would show any significant scarring of the heart muscle.

Q. Why is that important for a physician such as Dr. Schnell to know about a patient like Mr. Karr preoperatively?

A. Well, evidence of scarring of the heart muscle, of course, would increase the risk of surgery for the patient.

Q. Is there any other reason to get an EKG preoperatively, doctor?

A. Any other reason?

Q. Yes.

A. Heart rhythm.

Q. What would you want to know about the heart rhythm?

A. Well; an abnormal heart rhythm, of course, may pose a problem to control of the heart rate, and particularly under anesthesia or in the immediate postoperative period.

Q. You are getting just a little bit ahead of me, doctor.

- - - - -

(Thereupon, Watts Deposition Exhibit 5 was mark'd for purposes of identification,)

- - - - -

Q. Doctor, was there an EKG done on Mr. Karr?

A. There was.

Q. Okay.. And when was it done?

A. May 2.

Q. And did you review the EKG strip o Mr. Karr?

A. I did.

Q. And is that marked as Exhibit Number 5?

A. It is.

Q. Okay. And doctor, are you going t give an interpretation of this EKG strip?

A. I agree with Dr. Schnell in which he pointed out that there is a low grade first degree AV block that's in his handwriting. Th printed report from the computer-read electrocardiogram.also states the same thing,

states left axis deviation and borderline low voltage in frontal leads.

Q. And is that consistent with Dr. Schnell's interpretation of abnormal because of low grade first degree AV block?

A. Yes.

degree block, AV block?

A. AV block is the increase in the time it takes for the electrical current to go from the atria to the ventricles, and normally that's less than point two seconds. In his case it was point 216 seconds.

Q. And what caused that in Mr. Karr?

A. Hard to tell. It could have been an acute event which was possibly of chemical imbalance or neurologic stimulation; for instance, the vagus nerve may have been more active and caused the prolongation, or it may be a chronic thing because of some scarring of the conduction tissue.

Q. And what type of chemistries would cause this type of reading on an EKG?

A. It could be due to potassium depletion or calcium depletion. He also was

taking Calan,,which will affect the conduction system of the heart.

So there are many causes for prolongation of the PR interval.

Q. What effect does this have on the heart?

A. Basically none, because the heart rate is unimpaired. It only takes a little longer for the electrical activity to go from the atria to the ventricles, but each impulse is conducted from top to bottom, and so the heart rate is not impaired.

Q. And did this low grade first degree AV block require any treatment in Mr. Karr?

A. No.

Q. Why not?

A. Well, ba ically my last answer provides an answer to this. It didn't change his heart rate, and, so his, circulation was supported just as yell whether there was a slight prolongation in the conduction within the heart or not.

The higher grades of block in which there may be only half as many beats as there are electrical stimuli, of course, could have

an effect on the circulation, but in this case the effect on the circulation would really be minimal.

Q. Does this cause any increased stress on the heart?

A. No.

Q. And would this be important for yo to know as a physician before Mr. Karr went to surgery?

A. I wouldn't say it would be important since the abnormality is so minimal.

Q. And was this EKG which showed a lo grade first degree AV block a contraindication to Mr. Karr's surgery on May 3 of 1988?

A. No.

Q. And why is that?

A. Well, for the above reasons, that it didn't impose any restriction on the circulation or on the function of the heart.

Q. And would this finding on the EKG of first degree AV block require any special consideration in the postoperative period?

A. No.

Q. Why not?

A. He would be monitored in the

recovery room, and if there were a progression of the impairment of conduction, that would be recognized and appropriately treated.

Q. And when you say monitored in the recovery room, what do you mean?

A. I would presume he would be on telemetry at least during the time in the recovery room.

Q. And doctor, for purposes of the recgrd, telemetry is a heart monitor?

A. Yes.

Q. And what things would you be looking, for postoperatively in a patient, in Mr. Karr, with this first degree AV block?

A. Progression of the block so that not all of the impulses reach the ventricles and, therefore, the heart rate was depressed. Also, the development of abnormal heart rhythms would be watched for on the monitor.

Q. So that would manifest itself -- a progression of this AV block would manifest itself in a decrease in the heart rate?

A. Yes.

Q. And also some arrhythmias?

A. Yes.

MR. SCOTT: I don't think doctor is saying -- or perhaps he is --.that those necessarily would follow or both of them would be.

THE WITNESS: No.

MS. ILER: I understand.

A. That's what you are doing the monitoring for. But this in itself would not predict that that was a likely possibility.

Q. I understand that. Is there any other considerations that you would be looking for in the postoperative period in Mr. Karr with his first degree AV block?

A. No.

Q. Doctor, what was the condition of Mr. Karr's -- I'm sorry, let me strike that.

En performing a cardiac clearance, what types of blood chemistries would you want to review?.

A. Certainly the blood count and the electrolytes and the glucose, BUN and.' creatinine as ,reflections of kidney function.

Q. And what would you be looking for in a blood count, doctor?

A. To make sure he was not anemic.

Q. Okay. And why would that be important to know?

A. Well, with the increased demand fo oxygen in the circulation, a preoperative stat of anemia, of course, would pose a greater ris because obviously he would be having some bloo loss with the surgery,

Q. And so that would put an increased demand on his heart?

A. An increased demand on his heart and circulation to provide the requisite amoun of oxygen to the circulation,

Q. And what was Mr. Karr's blood coun preoperatively?

A. The hemoglobin was 13.8 and hematocrit was 39.6 and the red blood count wa 4.38 million.

Q. Let's take the hemoglobin. Doctor what is hemoglobin?

A. Hemoglobin is a protein which resides in the red blood cell, and its functio is to pick up oxygen in the lungs and then distribute oxyqen as it goes through the circulation,

Q. And why is that important to

measure in Mr. Karr preoperatively?

A. Well, because that's the oxygen carrying power of the blood.

Q. And why is that important in Mr. Karr preoperatively?

A. Because he will have a drop in hemoglobin and he will have an increased requirement for oxygen distribution in the system because of the operative and postoperative state.

Q. And what causes that increased oxygen demand in the operative and postoperative state?

A. The trauma that's engendered by the surgery.

Q. And doctor, is a hemoglobin of 13 normal in Mr. Karr?

A. The laboratory value that's shown in the laboratory report from Deaconess Hospital shows that they consider the normal range to be 14 to 18 on the hemoglobin. His is 13.8, so they flagged it with an L indicating low.

Q. And do you agree with that, doctor?

A. I agree that it is outside that

range. 13.8 is so close to normal that I really wouldn't consider it a significant abnormality.

Q. Would that be something that you

A. You would want to watch it even if it were normal.

Q. And why is that?

A. Well, for the reason I stated before. That's the oxygen carrying power of the blood, and we know that there will be a greater demand for oxygen in the postoperative state.

Q. And what would you be watching in that value, doctor?

A. Its absolute value.

Q. Would you be watching whether it went up or went down or stayed the same?

A. We would anticipate it going down.

Q. Why is that?

A. There is blood loss with surgery.

Q. Okay. And how would you monitor hemoglobin postoperatively, doctor?

A. By doing blood counts.

Q. And doctor, uhat is hematocrit?

A. Hematocrit is the volume of the blood which is composed of cells. If we look at the blood from the standpoint of being soli or liquid, the red and white blood cells are suspended in plasma, and when they are centrifuged we have a clear top and then the cells are packed at the bottom of the tube, and so all we do is after centrifugation we look a the tube to see how high up the cellular component will stack, and in this case it was 39.6, which means 39.6 percent of the blood in that centrifuge tube was composed of cells.

Q. Is that a normal hematocrit for Mr Karr?

A. Well, for Mr. Karr it may be. The range they give is 41 to 54. So again, it is flagged with an L indicating that it is slightly below the laboratory normal,

Q. And you agree with that?

A. Yes.

MR. SCOTT: He also just testified that it may be normal for Mr. Karr.

Q. I understand that; Doctor, and what was -- you said that Mr. Karr's red blood cell count was 4.38?

A. Yes.

Q. And is that normal?

A. Yes.

Q. And doctor, you stated that you also would want to in a cardiac clearance look at the electrolytes in the blood?.

A. Yes.

Q. Were those normal for Mr. Karr? Strike that.

Which electrolytes would you want to review in a cardiac clearance for Mr. Rarr?

A. Sodium, potassium, chloride, and carbon dioxide combining power.

Q. And were those reviewed in Mr. Karr preoperatively?

A. They were.

Q. And what were they?

A. The sodium was 129, the potassium was 4.1, the chloride was 93, and the C02 was 29.

Q. And in your opinion, are those values normal?

A. The potassium is normal. The sodium is lower than the normal range of 136 to 144. The chloride is just below the normal

range of being 95 to 103'. And the C02 is just above the normal range, 29, with a normal range being 23 to 28.

Q. And did those blood chemistries require any treatment preoperatively?

A. No.

Q. And doctor, you stated that you also want to look at the BUN and the creatinin preoperatively in Mr. Karr?

a. Yes.

Q. And why would you want to do that?

A. To detect any impairment of kidney function.

Q. And what was Mr. Karr's BUN preoperatively?

A. It was 30. I don't see a creatinine. The BUN was 30.

Q. And is that normal?

A. No. That's above the normal

Q. And what would that tell you as a physician?

A. That he had had some modest degree of renal impairment.

Q. What would you attribute that to in

Mr. Karr?

A. I think his age, hypertension, and diabetes.

Q. And in your opinion, did that value need to be treated with any medical treatment?

A. No.

Q. And why not?

A. Well, first of all, it is a very slight abnormality. Second of all, he would be receiving intravenous fluids postoperatively, so that renal impairment would probably not worsen to a significant degree.

Q. Doctor, is there anything else you would want to review in a cardiac clearance? We have just gone over the lab values you would want to review. Is there anything else?

Q. And which specific liver function tests would you want to look at?

A. Well, I think we would look at the protein, we would look at the liver enzymes, alkaline phosphatase, Bilirubin, LDH, SGOT, PTP.

Q. Were those reviewed in Mr. Karr

preoperatively?

A. Yes, they were.

Q. And were they found to be normal?

A. Yes. The only abnormality is a very alight one, the ratio between the albumin and the globulin showed that the globulin was a little higher than ordinarily seen, so the A/G ratio shows a little lower than usual. But all the other liver tests were normal.

Q. Does that complete, doctor, all the areas that you would want to review in a cardiac clearance on a patient such as Mr. Karr?

A. Yes.

Q. Doctor, I'd Like to direct your attention to the cardiac clearance, second page. Under recommendations it says, despite the multiplicity of medical problems and despite the long list of medications used to control the same, patient is generally in reasonably stable condition in relation to the planned surgery. His diabetes, hypertension, and other medical problems will be managed postoperatively.

Do you see that?

A. I do.

Q. And what did you understand that tc mean?

A. Well, I understand it to mean that the patient is cleared for surgery and will be followed postoperatively in the light of the pre-existing medical abnormalities.

Q. And who is going to follow him postoperatively?

A. Dr. Schnell was taking on that, role, and of course he was working with Dr. Tank. Dr. Tank would be responsible for the surgical aspects and Dr. Schnell would be responsible for the medical aspects of the postoperative period.

Q. Doctor, what specifically is Dr. Schnell responsible for in the postoperative period in the treatment af Mr. Karr?

A. Well, I think he is responsible fo the things that he is responsible for preoperatively, and that is the diabetes and hyperfension most importantly.

Q. And doctor, what do you understand it to mean, "and other medical problems will b managed postoperatively," as written by Dr.

Schnell?

A. Well, I think he means any problem that's not primarily of surgical origin.

Q. How do we determine which problems are surgical and which problems are medical?

A. Well, it has to be the evaluation of the individual problem. The surgeon usually is in charge of the fluid and transfusion aspects of the postoperative care.

Q. And was that -- I'm sorry?

A. Whereas the internist is responsible for the diabetic and hypertensive aspects of the postoperative care, and obviously any cardiac involvement in the postoperative care would come under the province of the internal medicine specialist rather than the surgeon.

Q. Okay. So in this particular case, doctor, do you say that Dr. Tank was responsible for the fluid management and blood transfusion of Mr. Karr? Is that right?

A. Right.

Q. And why is that?

A. Well, surgeons are supposed to in the postoperative period. They have been

involved in the blood loss, and so they are usually the ones who order transfusions. They certainly are the ones who ordered the postoperative fluids. And the only time the internist would get involved is if he felt tha there was mismanagement on the part of the surgeon in terms of the postoperative fluid balance.

Q. And when does the internist intervene in the fluid management or transfusion of a patient postoperatively?

A. Well, it has to be an individual answer depending on the particular patient.

Q. Doctor, what did the standard of care require that Dr. Schnell do for Mr. Karr preoperatively?

MR, SCOTT: Preoperatively?

MS. ILER: Yes.

MR. SCOTT: Are we back to the medical clearance?

MS. ILER: I don't know. Whatever the doctor seems to think that Dr. Schnell was required to do.

A. I would think that would be the medical clearance that we have been talking

about.

Q. So the standard of care required that Dr. Schnell perform a medical clearance on Mr. Karr preoperatively?

A. Yes.

Q. And to determine what in Mr. Karr?

A. How safe he was for surgery.

Q. Okay. And did you review the medical clearance that Dr. Schnell performed on Mr. Tank -- I'm sorry, Mr. Karr?

A. Yes.

Q. And did you think that that met the

A. Yes.

Q. And why did it meet the standard of care?

A. Because he had done a very thorough evaluation of the past history, the present complaints, the physical findings, and the laboratory findings and had then listed the diagnoses which are indications of possible postoperative complications, and indicated that he would continue to follow the patient from a medical standpoint.

(Discussion off the record.)
(Recess taken.)
(Record read.)

Q. And doctor, when you say medical standpoint, what do you mean?

MR. SCOTT: Objection. That question was just asked and answered, but go ahead, doctor.

Q. You say that Dr. Schnell was required to follow Mr. Karr medically postoperatively. Is that right?

A. Yes.

Q. And what do you mean by follow him medically?

A. To evaluate the medical conditions in other words, the nonsurgical conditions, an to respond to their abnormalities with appropriate therapy.

Q. And you stated those to be the diabetes, his hypertension, and any cardiac problems --

A. Yes.

Q. -- he may have?

Doctor, is it your opinion that on May 3 of 1988 Mr. Karr was stable for the

lumbar laminectomy?

A. Yes.

Q. Doctor, when you reviewed the records did you see that Mr. Karr tolerated the lumbar laminectomy surgery -- strike that. Did you find from review of the records that Mr. Karr tolerated the surgery that was performed on him?

A. Yes.

Q. You didn't find he had any problems in the operating room?

A. No.

Q. Doctor, what was the standard of care that was required of Dr. Schnell inasfar as Mr. Karr postoperatively?

A. To evaluate and treat the abnormalities of the diabetes, whatever abnormalities of hypertension might occur, and any cardiac abnormalities.

Q. Did Dr. Schnell have any responsibilities to Mr. Karr during the surgery?

A. No.

Q. And why is that?

A. During surgery the surgeon, of

course, is in charge, and he's helped by the anesthesiologist, who is watching the vital signs as well as giving the anesthesia.

Q. Doctor, do you agree that both Dr. Schnell and Dr. Tank were both treating Mr. Rarr while he was at Deaconess Hospital?

A. Yes.

Q. Doctor, how much blood volume does Mr. Karr have, a patient like Mr. Karr?

A. Well, he probably has five percent of his body weight in the form of blood itself. And he weighed 180 or something like that, I saw it here somewhere --

Q. And doctor, do physicians talk in terms of pints of circulating blood or volume or --

A. No.

Q. -- cc's?

A. We use cc's.

Q. And how many cc's?

A. I figured it out a couple of days ago. I think it was 4,300 cc's would be in th form of blood.

Q. And that would be Mr. Karr's circulating blood volume?

A. Yes.
Q. 4,300 cc's?
A. Yes.
Q. How did you figure that out?
A. Five percent of his body weight.
Q. Doctor, I'd like to review with you what you understand Mr. Karr's postoperative condition to be. I am going to take some chunks of time. Okay?

What was Mr. Karr's postoperative condition from the time he got out of surgery and was in the recovery room? And I have looked at the chart, and that is on 5-3-88 from about 1:00 p.m. to about 3:00 p.m.

MR. SCOTT: Nancy, that might be one of the records that I asked you about at the last deposition, the recovery room record, and I am not sure if I have it in my binder. Do you have a copy?

Q. Yes. Well, I'm just interested in what the doctor understood his condition to be.

A. I believe the nurses' notes give us some of the information here, and we now are on May 3 at 1:05 p.m. in which he has returned

from the operation and is in the recovery area. And then at 3:40 p.m. he returned to 7N, I presume that's 7 North.

So that would suggest that his postoperative condition must have been stable, because he was moved up to the area where he had come from within three hours after the operation. And the nurses' notes indicate that he seemed to be in satisfactory condition.

Q. And what do you take that to mean, doctor, when you say the nurses say he was in satisfactory condition?

A. Well, for instance, his vital signs, temperature is 36.1, his pulse rate is 88, his respiratory rate is 20, and his blood pressure is 128 over 80. One could hardly ask for better numbers than those.

Q. And do you know what the condition of his diabetes was from on May 3 of 1988 from 1:00 p.m. to 3:00 p.m. when he was in the recovery room?

A. At 2:44 p.m. his -- I have the wrong day. Apparently when he just came from the operating room at 1322 on the 24-hour clock, 1:22, his blood sugar was was 329.

Q. Is that high, doctor?

A. Yes.

Q. Did that require some treatment by Dr. Schnell?

A. I'm not picking it up there. Maybe on the orders.

Here. We have Humulin R, 20 units subcutaneous now, given at 3:10 p.m. And then also Dr. Schnell asked that a blood sugar at 8:00 p.m. be performed and that he be called with the result.

Q. So that fasting blood sugar did require some treatment by Dr. Schnell; is that right?

A. Yes.

Q. And treatment was given; is that right?

A. That's right.

Q. Okay. Doctor, when you stated that the standard of care required Dr. Schnell to monitor Mr. Karr's medical condition, that being, as you stated it, his diabetes and his hypertension postoperatively, how would Dr. Schnell do that?

A. Most importantly by the nurses'

observations and reporting to him the information he requested or anything that they saw that was abnormal and felt that he should be notified.

Q. Let's take the diabetes. How was Dr. Schnell to monitor Mr. Karr's diabetes postoperatively?

A. By blood sugars.

Q. How often should those be performed?

A. It varies from day to day, As you know, he got a blood sugar right after the operation and then again at 8:00 that evening, which is about seven or eight hours after the operation.

Q. And how often should Dr. Schnell b looking at these blood sugars on Mr. Karr postoperatively?

A. Well, as I said before, it varies with the circumstances, once or twice or three times a day. It depends on the circumstances.

Q. And are there any other things tha Dr. Schnell is required to do in order to monitor Mr. Karr's diabetes?

A. No.

Q. How is Dr. Schnell to be monitoring Mr. Karr's hypertensive condition postoperatively?

A. By the vital signs provided by the nurses.

Q. What particular vital signs would Dr. Schnell be looking at?

A. Blood pressure.

Q. And what would he be looking for in a blood pressure?

A. A blood pressure over 160 or below a hundred.;

Q. What would that tell Dr. Schnell?

A. That his blood pressure over 160 was perhaps inappropriate and should be treated with antihypertensive medication, and if it were below a hundred that the consideration of a vasoactive compound should be considered.

Q. Anything else that Dr. Schnell was required to monitor as far as Mr. Karr's hypertensive condition?

A. No.

Q. What was Dr. Schnell required to monitor as far as Mr. Karr's cardiac condition postoperatively?

A. Heart rhythm as reflected, first of all, by the telemetry in the recovery area, and any abnormalities in heart rate detected by the nurses in their examinations after the patient went off telemetry. Also, of course, the presence of cardiac symptoms or the presence of pulmonary congestion.

Q. Would Dr. Schnell be required to tell the nurses to monitor specifics as far as Mr. Karr's cardiac condition?

A. No.

Q. What would they be measuring?

A. Well, as I said before, they would be measuring blood pressure and heart rate. The nurses talk to the patients, so they may elicit symptoms, examine the patients, so they would detect evidence of congestion.

Q. Doctor, when you say heart rate, d you mean pulse?

A. Yes.

Q. And what is the normal range of a pulse in a patient such as Mr. Karr?

A. Well, we usually expect it to be faster than normal because of the operative intervention, so a heart rate up to 120 would

not be unusual.

Q. For how long?

A. Several days.

Q. And why would the surgery cause an increased heart rate?

A. Blood loss.

Q. How does blood loss cause an increased heart rate?

A. Well, if one has a reduced oxygen carrying capacity of the heart, one must pump more blood to supply the same oxygen requirements.

Q. And what cardiac symptoms should Dr. Schnell be looking for in Mr. Karr postoperatively?

A. Angina and shortness of breath.

Q. Anything else?

A. No.

Q. And should Mr. Karr or Dr. Schnell be looking for any changes in his EKG?

A. Yes.

Q. Dr. Watts, what is your opinion as to the amount of blood that Mr. Karr lost during the surgery?

A. According to the record, I think it

added up to a total of 880 cc's.

Q. And that is over what period of time?

A. I think 650 was the estimate by the operating surgeon at the operation, and I think he had 230 or something like that that was collected by drainage during the recovery period.

Q. And do you think that reflects his, total blood loss, the blood loss in Mr. Karr, the 880 cc's?

A. No.

MR. SCOTT: Objection.

A. No.

think surgeons tend to underestimate the amount of blood loss. That is not their primary focus

d

the body.

Q. And how do you as an internal medicine doctor monitor that blood loss postoperatively?

MR. SCOTT: Objection.

A. Well, the most obvious way is to do a blood count.

Q. And the blood count, what particular values are you looking for in the blood count?

A. Red blood count, hemoglobin, and hematocrit.

Q. Doctor, what is ventricular quadrigeminy?

A. That is an irregular beat of ventricular origin every fourth beat.

Q. And what causes that?

A. Cardiac irritability.

Q. What causes cardiac irritability?

A. Well, it could be caused by age alone, it could be caused by a great many factors and quadrigeminy is not an unusual rhythm in ventricular arrhythmias are not uncommon. They are age related. As people ge older they are much more likely to have that sort of thing.

Mr. Karr experience ventricular quadrigeminy?

MR. SCOTT: Why don't you --

MR. SCOTT: Do you have it, Nancy?

A. Here we are. Oh, no. This is

Here we are. 2:25 p.m. on May 3, he has one ventricular premature beat and he thought was quadrigeminy, but Dr. Schnell didn't agree.

A. I do.

Q. So Mr. Karr did not have ventricular quadrigeminy, in your opinion?

A. No. What he has in this rhythm strip is one ventricular premature beat.

Q. Did that require any treatment by Dr. Schnell?

Q. Why not?

A. First of all, it is very benign and normal. Second of all, unfortunately our

medications sometimes do harm instead of good, but nothing needed to be done in the presence of one ventricular premature beat.

Q. Doctor, what was Mr. Karr's

at 3:40 in the afternoon he went up to 7N, and he looks pretty good.

Q. Well, doctor, when you say he looks pretty good, what are you looking at in order to determine whether he's looking pretty good?

A. I'm looking at everything.

Q. As an internal medicine doctor, what should Dr. Schnell have been looking for in that period of time as far as Mr. Karr's condition?

A. Well, I think I already answered that a number of times, but obviously the vital signs, how the patient felt, how he sounded on examination, and of course any chemical abnormalities; most importantly, of course, the blood sugar.

Q. When you say it is important to assess the patient and how he felt, what do you mean? What are you looking for under that particular examination?

A. Well, any symptoms that you would not anticipate being appropriate. Obviously he

chest pain, shortness of breath, those would not be appropriate postoperative symptoms.

Q. So it is your opinion that on 5-3-88 from 3:00 to midnight that he was doing well?

A. Yes.

Q. So you are saying that his vital signs are stable. Do you know what his fasting blood sugars were at that time?

A. At 2008, which is 8:00 in the evening, his fasting glucose -- actually nonfasting by then -- is 311.

Q. And did that require treatment by Dr. Schnell?

Doctor, I am not asking you what the treatment was, I'm saying did it require treatment?

A. I'm sorry.

Q. That's all right.

A. I was one question ahead of you. Yes.

Q. Okay. What kind of treatment did it require?

A. It required insulin.

Q. Okay. Doctor, I'd like to talk about Mr. Karr's condition on 5-4-88, from 12:00 midnight to 8:00 a.m. What was Mr. Karr's condition during that time?

A. 12:00 midnight through when.

Q. 8:00 a.m.

MR. SCOTT: What was his condition?

A. Apparently it was satisfactory.

Q. And what do you base that on?

A. Careful reading of the nurses' notes beginning at 2:10 a.m. on Thursday, May 5, 1988, and continuing on to the next page which is headed at 8:00 a.m. on May 5, 1988.

Q. What particular notations in the nurses' notes lead you to believe that Mr. Karr was doing satisfactorily?

A. Well, there is a note, unfortunately the punch has gone through the

time, but anyway, it was sometime between 2:10 and 7:47, and it says, has had a comfortable night until now. Complaining of some incisional discomfort, bilateral anterior thigh pain, and analgesic given. I think that says, no respiratory distress noted during the night no shortness of breath or respiratory distress. That is at 8:00 a.m.

Q. And was there anything else that you looked at in determining Mr. Karr was doing satisfactory during that time?

A. Well, I looked at all of the rest of the notes. Those seem to be the highlights. Maybe the graphic chart would hav other information.

Q. Were his pulse and his blood pressure stable during that time?

A. Yes. The blood pressure was 130 over 70 at midnight, and at 4:00 a.m. it is charted at 140 over 90. And his heart rate at midnight was 80, and then at 4:00 a.m. it is - I'm sorry, maybe it is 7:00 a.m. I guess it i 7:00 a.m. instead of 4:00. They have got 4 an 7. It depends on which part of the graphic yo read. Heart rate was charted at 95 at that

time.

Q. And doctor, on May 4 of 1988, what was Mr. Karr's condition from 8:00 a.m. in the morning to say 3:00 in the afternoon?

A. We're going back to May 4?

Q. Well, I think we were on May 4 actually. We went from 12:00 midnight to 8:00 a.m. Now we are going from 8:00 a.m. to 3:00 in the afternoon.

A. I thought we were on May 5th.

Q. Well, I thought we were speaking of May 4. Let's back up then.

A. Yes. Was there a question to me May 5 or May 4? Not this one, but the prior question. I thought you were just skipping a day.

Q. No. Let me ask the question again. What was Mr. Karr's condition from midnight on --

A. May 3?

Q. -- May 4? We are talking postoperatively.

A. Okay.

Q. I see what you mean, doctor. I'm saying midnight, so it is --

A. It is the end of the day of the operation, and now we are into the first postoperative day.

Q. so --

A. I was answering your question, I thought you were talking about May 4th to the morning of May 5th. I thought you were skipping a day.

Q. All right. Well, we weren't. Let's go back.

A. Okay. Here we are on Wednesday, May 4. In fact, I stated the date when I gave my answer.

Here we are on Wednesday, May 4, 1988. The nurses' notes, 3:00 a.m., postoperative night. Alert, oriented, and cooperative. Pulse 108, was 120 at 11:00 p.m. Patient very restless earlier.

Apparently at 7:15 a.m. they calle Dr. Schnell.

Q. Why did they call Dr. Schnell?

A. Because his heart rate was up to 120. And Dr. Schnell said he would be in to see the patient this morning.

And the patient stated he is

having, quote, a little back pain now, unquote, and he was given an analgesic for that.

Q. Doctor, on May 4 of 1988 was a hematocrit and hemoglobin done on Mr. Rarr?

A. Yes.

Q. And what were the values?

A. At 7:46 a.m. the hemoglobin is 8.8, and the hematocrit is 26.

Q. And were those lower than they wer preoperatively?

A. Yes.

Q. And did that hemoglobin and a hematocrit of 8.8 and 26.0 require any treatment by Dr. Schnell?

A. No.

Q. Why not?

A. Well, first of all, it is the primary responsibility of the surgeon to transfuse the patient if he felt that it was necessary. But in addition, the patient was stable as far as his vital signs were concerned, so his sudden anemia, which obviously was due to the surgery, didn't seem to be imposing any significant burden on the patient.

Q. And what caused the drop of Mr. Karr's hemoglobin and hematocrit postoperatively?

A. Well, we know that he lost 880 measured cc's of blood plus the unmeasured blood loss in the tissue.

Q. So it was blood loss due to surgery that caused his hematocrit and hemoglobin to drop to the level of 8.8 and 26.0?

A. Yes.

Q. And does that drop in hematocrit and hemoglobin have any effect on Mr. Karr's heart?

given fluids at varying rates, but as I recall, he was getting fluids during the period of time at 100 ml per hour, so he was having a

fluid replacement, but not with blood replacement.

Q. And how much fluid replacement did he get?

A. On his intake/output sheet --

MR. SCOTT: I don't have it in this

binder. Do you have it, Nancy? I've got it in my office.

Q. I want to know what the doctor knew when he reviewed the case.

Did you review the input and outtake document when you reviewed this case and before you gave your opinions or wrote your report of December 8 of 1991?

A. Yes.

Q. Okay. And you found the IV -- and you don't remember what the IV rate was?

A. I don't remember the -- well, I know the rate was around 100 cc's an hour, but if I can find the intake/output --

MR. SCOTT: I don't have it in that binder.

A. Oh, it isn't.

Well, I am going to have to speak from memory of having reviewed this last night. As I recall, I think he got over 6,000 cc's of fluid on May 3 and 4th.

Q. Was that sufficient to replace his --

A. Oh, here we are.

Q. Is that the document that you

reviewed?

A. Yes.

Q. Okay.

May 3 and 1,245 on May 4.

So he had 6,700 intake and about

period.

Q. And is that acceptable for a man such as Mr. Karr?

A. Excellent.

that that would help him pump more blood around the circulation. We know he has a reduced oxygen carrying power because of the reduced amount of hemoglobin, but if we can circulate

maintain the oxygenation of the tissues. And

normal hydration, as this would speak in that direction, he would be able to maintain the oxygen requirements of the circulation.

Q. And how do you determine whether Mr. Karr is meeting his oxygen requirements?

A. Well, if there is no problem, it must be good news. If he's not having any obvious symptoms, if his heart rate and blood pressure are satisfactory and urine output is satisfactory, then one could logically assume

been beneficial for him.

Q. And is there a difference between fluid volume and blood replacement?

replacement and blood replacement?

A. Yes.

Q. What's the difference?

A. Well, fluid replacement does not have oxygen carrying capacity, only the red blood cells can carry oxygen.

Q. And what do you look to or what should Dr. Schnell be looking to in determining

whether Mr. Karr is meeting his oxygen requirements?

MR. SCOTT: Objection.

A. Respiratory rate and degree of comfort.

Q. What do you mean by degree of comfort?

A. Well, if he were weak, if he were short of breath, if he had chest pain, those would be indications that he didn't have enough oxygen carrying capacity for his circulation and his circulatory needs.

Q. Would confusion be a symptom of decreased oxygen carrying capacity?

A. Well, it could be, but in the postoperative state with a person who is getting analgesics, I think we have to also factor that into the situation.

Q. How do you determine whether someone is being confused by their narcotics that they are receiving or whether it is an actual effect from a decreased oxygen carrying capacity?

A. Hard to tell, because obviously a postoperative patient is getting some kind of

medications to affect mental function, and so I think it would have to be withdrawal of all of those medications in order to say that the problem was circulatory, or if there were other/ things which were circulatory, then that would help to indicate that he had a reduction in the -- a reduction to an unacceptable level of the oxygen carrying capacity of the heart, of the

receiving?

A. Well, I already answered it. Obviously shortness of breath, rapid respiratory rate, feeling of extreme weakness, angina. All of these things would indicate lack of oxygen carrying capacity of the circulation. But your question about the mental, of course, is more difficult to answer because of the effects of the analgesics on

mental function, which would not be relevant to reduction in oxygen carrying capacity.

Q. Do you have an opinion as to if Mr. Karr was ever confused during his postoperative period?

MR. BONEZZI: Objection.

MR. SCOTT: Yes, objection. Doctor knows only from the records.

Q. Sure. When you reviewed the records --

MR. SCOTT: To the extent he can know.

Q. Do you have an opinion as to whether Mr. Karr had any confusion postoperatively?

A. The only note which indicates that is Dr. Tank's note stating that the patient was still inappropriate. I'm not sure what Dr. Tank's definition of inappropriate is, but in a careful reading of the nurses' notes, I don't find any evidence that the patient was confused.

He was inappropriate in one way in the immediate postoperative period in that he was a little more active than the nurse thought

he should be. He was reaching for things and he was over-using the spirometry equipment that had been given to him. But I don't find any -- in fact, I find a number of occasions when the nurses referred to him being oriented times three. So in the opinion of the nurses, he was not having any mental impairment.

Q. And doctor, do you recall the time that the nurses thought he was inappropriate?

A. No. I think it was Dr. Tank.

Q. Dr. Tank, yes.

A. I think that was -- let me look it up in the progress notes. Well, on May 5, postoperative day two, Dr. Tank has written febrile, some wheezing, complains of low back pain, no sciatica, still inappropriate. I think that was the only note.

No. On May 4 Dr. Tank also says, postoperative day one, inappropriate, confused, hemoglobin 8.8, drains removed, so on and so forth.

Q. Do you have an opinion as to what

caused the confusion as noted by Dr. Tank in Mr. Karr?

A. I don't know what he means by inappropriate.

Q. So you don't have an opinion?

A. No.

Q. Doctor, what would be the treatmen for Mr. Karr's hematocrit and hemoglobin of 8. and 26.0 on May 4?

MR. SCOTT: Objection.

MR. BONEZZI: Objection.

MR. SCOTT: It assumes that treatment is required, but you may answer, doctor.

MR. BONEZZI: Same objection.

A. Well, I wouldn't treat the numbers, since he seemed to be stable and to have satisfactory oxygen capacity in the circulation. There wouldn't be any need to treat it.

Q. And that was determined -- you determined that there was sufficient oxygen capacity by his --

A. By a lack of evidence that there wasn't.

Q. In that you say shortness of breath, and what was the other criteria that you used?

A. If he developed angina, a rapid heart rate, if he developed rapid respiratory rate. In other words, if he had objective evidence for impaired oxygen carrying capacity in the circulation, then the treatment would be that of transfusion.

Q. And you are talking about a blood transfusion?

A. Yes, I am.

Q. And why would that be necessary given those circumstances?

A. Given those circumstances, the only way to treat impaired oxygen capacity would be to give transfusion, which would increase his oxygen capacity.

Q. Doctor, was it required that Dr. Schnell follow Mr. Karr's hematocrit and hemoglobin after that reading of 8.8 and 26.0?

A. Well, I think it is more incumbent on Dr. Tank, but obviously both physicians would be looking at the laboratory data.

Q. Okay. And what was the next

hematocrit and hemoglobin that was done on Mr. Karr?

MR. SCOTT: The next after the 8.8, you mean?

Q. Yes.

A. The next one is at 2100 on May 4, that is 9:00 a.m. 7.6 for hemoglobin, 23 for hematocrit.

9:00 P.M.

Q. And is that a decrease from the previous hematocrit and hemoglobin in Mr. Karr?

A. Yes.

reading for hematocrit and hemoglobin?

MR. SCOTT: Objection.

MR. BONEZZI: Objection.

A. Yes, it is below normal.

Q. Did that require treatment in Mr. Karr?

A. Only if there is objective evidence for impaired oxygen carrying capacity in the body.

Q. Doctor, do you believe that Mr. Karr should have been transfused at any point in time?

A. No.

I take it?

carrying capacity of the circulation.

Q. As determined by what?

A. Well, I think I answered that before, but to recapitulate, if he developed signs or symptoms of a reduction in oxygen carrying capacity to the point of causing

administered and it was agreed that that was appropriate.

Q. In patients like Mr. Karr, who has a long-standing history of diabetes and hypertension, are there any additional considerations when looking at his hematocrit and hemoglobin?

A. No, because I think that if he needed transfusion, and he might need transfusion more than the person without the past history that we just referred to, we would still be guided by the same principle, that if there was evidence that he needed more oxygen carrying capacity then the transfusion would be considered and, if agreed, would be arranged.

Q. Why would a person such like Mr. Karr have additional needs for transfusion, as you stated -- .

MR. SCOTT: Objection.

MR. BONEZZI: Objection.

Q. -- as opposed to a regular or a normal person, healthy person?

MR. BONEZZI: Objection.

MR. SCOTT: The doctor did not say this person had additional need.

Q. Do you disagree with my question, doctor, the premise of my question?

A. Could we have it read back?

Q. I will rephrase it.

Doctor, you testified that Mr. Karr because of his diabetes and his hypertension may require a transfusion before a normal healthy person. Was that your testimony?

A. I believe so.

Q. And why is that?

A. Because of the evident or possible impaired circulation, evident impaired circulation to the left leg, for instance, the past history of the carotid endarterectomies, the presence of the heart catheterization of 1981 showing that he did not have normal coronary arteries, so that a reduction of oxygen carrying capacity might induce symptoms in those circulatory areas which would not occur if those arteries were normal.

Q. And what type of symptoms would they induce?

A. Well, starting at the top, the cerebral circulation may cause a weakness of one part of the body or possibly confusion,

hemoglobin for Mr. Karr that was done at 9:00 p.m. that showed 7.6 and **23.0**, what effect did those values have on Mr. Karr?

A. None that I could find in the review of the chart.

Q. Would those values indicate a decrease in oxygen to Mr. Karr's heart?

MR. BONEZZI: Objection.

A. Not necessarily, because if he is able to pump blood faster with a reduced oxygen carrying capacity it comes out even. It is delivering the hemoglobin at a more rapid rate.

heart to beat faster to circulate less hemoglobin and hematocrit?

A. Either faster or a larger volume with each stroke. It all comes out the same. The two components are the volume per beat and the number of beats,.

Q. Is that an increased stress on Mr.

Karr's heart?

MR. SCOTT: Stress? Objection. you may answer, doctor.

A. It would be more work for the heart, because one of the determinants of cardiac work is heart rate.

Q. Doctor, what was the next hematocrit and hemoglobin that was done on Mr. Karr? Let me strike that and give you another question.

Did that hematocrit and hemoglobin

A. No, it didn't.

Q. Did it require him to contact Dr. Tank?

A. Yes.

Q. Why did it require him to contact Dr. Tank?

A. He wanted to make sure that Dr. Tank knew what the blood count was in case Dr. Tank wanted to give a transfusion.

Q. Why did those values of 7.6 and 23.0 require Dr. Schnell to call Dr. Tank?

A. I'm not sure it required. I

wanted the operating surgeon to be up to date as to what the blood counts were in case the surgeon felt that in his opinion the transfusion should be given.

Q. And did Dr. Schnell's -- was he only required to tell Dr. Tank that? Was he required to follow up with Dr. Tank concerning those values?

A. No, I think he had discharged his total obligation in this area by asking the nurse to notify Dr. Tank what the blood values were, and it was from that time on it was up to

Q. Doctor, what was the next hematocrit and hemoglobin that was done on -- I'm sorry, what was the next hematocrit and hemoglobin that was done on Mr. Karr?

A. That was on 5-5 at 8:05 a.m.

Q. And what was the results of that blood?

A. Hemoglobin was 7.5 and the hematocrit is 22.5.

Q. Is that a decrease from the value

that was taken on May 4 of 1988?

Q. Why not?

A. Well, first of all, it is so minimally different. Second of all, there is no evidence to show that the patient was suffering any problems as far as the anemia wa concerned. Third of all, the operating surgeo was already aware of the previous value which was almost exactly the same as this value.

Q. And what effect did that hematocri and hemoglobin on 5-5-88 have on Mr. Karr?

A. No discernable effect.

Q. And doctor, what was the cause of the drop in hemoglobin from 5-4 to 5-5 of 1988?

MR. BOWEZZI: Objection. It assumes there was a drop.

A. Well, I think it probably was due to the positive fluid balance.

Q. Doctor, what do you mean by

A. More fluid in than fluid out. He had, what did we figure, 6,600 or something like that in and 2,000 out. So he had a positive fluid balance of 4,000 cc's in a two-day period.

Q. And so what effect does that have on --

A. Well, you have the same number of red blood cells but you put them in a larger volume, so your content is going to go down. You are measuring per unit, you are not measuring all the red blood cells in the whole body. So obviously you've got more water in there and less blood.

Q. So it is your opinion that the decrease in the hematocrit and hemoglobin from 5-4-88 to 5-5-88 is due to the fluids that Mr. Karr was receiving?

A. Yes. On May 4 alone he got 4,000 cc's of fluid and put out 1,200, so he obviously has a much larger fluid volume on th morning of May 5 than he had on the morning of May 4.

Q. And doctor, do those fluids that

Mr. Karr was receiving, does that put a stress on Mr. Karr's heart?

A. No, I don't think so. I think if anything it would help, because since he had decreased red blood cells, having an adequate fluid volume helps him maintain his circulation. I think it was important that he have that fluid volume.

Q. For what reason?

A. So that he could circulate the red blood cells at a more rapid rate in order to meet his oxygen requirement demands.

Q. Doctor, who ordered an EKG done on Mr. Karr --

A. Who --

Q. -- on 5-5?

A. Who ordered it?

Q. Yes.

A. I think Dr. Schnell did.

Q. Why did he do that?

A. I think he was doing it --

MR. 'SCOTT: I am going to object since the record does not disclose, at least to my knowledge, the reason for Dr. Schnell ordering it.

You may answer if you can.

A. I think it came under a heading of prudent postoperative laboratory evaluation an was not ordered on the basis of any evidence for a cardiac problem.

Q. And what is your basis for saying that?

A. He hadn't had any symptoms referable to his heart recorded either by nurses or by Dr. Schnell, and we know that things can occur under anesthesia or in the immediate postoperative period that may not be symptomatic but nevertheless may show on the electrocardiogram, so I think it was a prudent observation to take the electrocardiogram sometime in the postoperative period.

Q. And that would be Dr. Schnell's responsibility to do; is that right?

MR. SCOTT: That assumes that ther is a duty to take any EHG.

A. Yes.

Q. Doctor, I am going to ask you a question about the electrocardiogram.

- - - - -

(Thereupon, Watts Deposition

Exhibit 6 was mark'd for purposes of identification.)

Q. Doctor, I'm handing you what has which is an EKG that was done on May 5 of 1988. Doctor, what does that EKG show?

A. Well, the computer has read it as showing normal sinus rhythm, rate of 98, low voltage in frontal planes -- leads, anterolateral ST-T abnormalities, consistent with ischemia and/or subendocardial infarction. I presume that's what I N J period means.

Abnormal electrocardiogram. Dr. Schnell has written, compared to 5-2-88 there are new ST changes.

a. Okay. And doctor, consistent with ischemia and/or subendocardial I N J, what does that mean to you?

A. Well, I agree with the ischemia part, that there was evidence of impaired circulation to the heart muscle as shown by this electrocardiogram.

Q. And was that a change from the

previous electrocardiogram that was done on May 2 of 1988?

A. Yes.

Q. And doctor, what does ischemia mean?

A. Impaired circulation to the heart muscle.

Q. And doctor, do you know what the cause of that was in Mr. Karr?

A. I don't know what the cause was.

Q. And doctor, did this EKG require any treatment by Dr. Schnell?

MR. SCOTT: Objection.

A. I think I would be treating more than the electrocardiogram. The patient was asymptomatic, so I think that -- I am not sure that this electrocardiogram in itself would mandate treatment in an asymptomatic person.

Q. What was required of Dr. Schnell inasfar as this electrocardiogram is concerned?

MR. SCOTT: I'm going to object to that, since it assumes that Dr. Schnell saw the EKG.

MS. ILER: John, I think the doctor has reviewed the records and certainly can

answer the question any way he sees fit. You are suggesting the answer to him, and I just can't have that.

MR. SCOTT: Well, at the time it is impossible to treat the patient, since you and I both know --

MS. ILER: Now tell him.

MR. SCOTT: Well --

THE WITNESS: I know.

MR. SCOTT: He knows he didn't see the EKG.

MS. ILER: Make your objection and go on.

MR. SCOTT: How can you treat the patient with an EKG when the patient is deceased?

Q. Now that Dr. Scott -- Mr. Scott has given you or suggested the answer to you, do you think you can come up with your own answer, doctor, as far as this? He can say whatever he wants.

MR. SCOTT: You placed an erroneous presumption.

MS. ILER: If the doctor has a problem with my question, he can tell me,

John. I am not taking your deposition. I am taking the doctor's.

Q. Now, doctor, can you answer my question?

A. What was the question again?

Q. It was -- I could rephrase it.

MR. SCOTT: It was how would Dr. Schnell treat the patient?

Q. What was required of a doctor when he saw this EKG on Mr. Karr that was done on May 5 of 1988?

A. Well, in order to answer the question I have to have a better definition of the clinical setting. As I understand the clinical setting, Dr. Schnell had ordered the electrocardiogram not based on symptoms or findings on examination but on the prudent rul that sometime in the postoperative period it would be appropriate to get an efectrocardiogram.

I think we all know, of course, that Dr. Schnell ordered the electrocardiogram, did not actually see the electrocardiogram until the patient had already died several hours after the electrocardiogram had been

recorded.

So I think I have to answer the question really within the context of the clinical events of Mr. Karr. And since the patient was not having any symptoms, then ther wouldn't be any treatment.

Q. So in your opinion, this EKG of Ma 5 of 1988 required no treatment by any physician?

MR. BONEZZI: Objection.

MR. SCOTT: I don't believe the doctor has testified to that.

A. Within the context of the clinical events of this case that I have already sketched out.

Q. You see, doctor, I don't understan what you mean by within the clinical events of this case.

I mean, I am asking you, did this EKG, which is Exhibit Number 6, require any treatment by a doctor? I mean, I think it is very simple question, and I'd like an answer t it.

A. Well, I have already given you one answer, and I have answered you in the context

of the clinical presentation of Mr. Karr on --

Q. We'll do it this way.

A. Okay.

Q. What is the clinical context of Mr. Karr?

A. A man without any cardiac symptoms who has had a routine postoperative electrocardiogram which shows what Exhibit 6 is showing us.

Q. And based upon that, you think that this required no treatment from a physician, this electrocardiogram?

A. Yes, based upon that clinical setting.

Q. You see, doctor, it is confusing to me when you use the words clinical setting, because I don't understand what that means. You see what I am saying?

A. I have tried to define it for you.

Q. You say clinical setting. You are saying that based upon the fact that Mr. Karr was postop from a lumbar laminectomy and you say that he had no cardiac symptoms, in light of this EKG he required no treatment? Is that right?

A. Yes.

Q. Okay. And doctor, do you have an opinion as to what caused this abnormal EKG in Mr. Karr?

A. I have a conjecture, but that's al it is.

Q. So you have no opinion based upon reasanable medical certainty?

A. No.

Q. Okay. Doctor, what is Imferon?

A. Imferon is a form of iron that is injected intramuscularly to replete the iron content of the body so that the anemia may be more rapidly diminished by production of red blood cells.

Q. And why was it given in this case?

A. Because of his anemia.

Q. Okay. And doctor, what is anemia?

A. Anemia is a decrease in the red blood cells compared to the normal value.

Q. And was the Imferon successful in treating Mr. Karr's anemia?

A. No.

Q. Why not?

A. Well, Imferon takes quite a while

to work, and I think he died within a short time after he got the one injection of the Imferon.

Q. How long does it take Imferon to work, doctor?

A. Oh, it would take at least a week.

Q. Doctor, do you use Imferon in your patients?

A. Almost never. I can't remember the last time I used Imferon.

Q. Why is that?

A. Well, usually iron can be taken orally more easily. Imferon is a rather painful and somewhat expensive medication. So if iron can be taken orally, I don't -- it will still do the same job.

Q. And does that treat Mr. Karr's hematocrit and hemoglobin, the Imferon?

A. It would eventually, but not immediately.

Q. Doctor, do you have an opinion as to what the cause of Mr. Karr's death was?

A. I think it was ischemic heart disease.

Q. Caused by what?

A. Coronary arteriosclerosis.

Q. Caused by what?

A. The coronary arteriosclerosis? Caused by age, hypertension, and diabetes and high cholesterol.

MS. ILER: Could you read me back the doctor's answer?

(Record read.)

Q. Doctor, was there any other cause of death in Mr. Karr?

A. No.

Q. Was there any event that precipitated his death? I mean, he had this coronary arteriosclerotic heart disease before the surgery, right?

A. Yes.

Q. So what caused him to die from it after the surgery?

A. I can't name a specific event that caused him to die when he did die other than the pre-existing coronary artery disease.

Q. Well, what caused the ischemic changes in his heart?

A. Lack of -- impaired circulation to the heart muscle.

Q. And doctor, what is that opinion based on?

A. Which opinion?

Q. The cause of his death, you said it was caused by coronary arteriosclerotic disease and coronary ischemia; is that right?

A. Yes, myocardial ischemia.

Q. Uh-huh.

A. It's based on the autopsy findings.

Q. What particular findings?

A. Well, the anatomical diagnoses by the county coroner, Dr. Balraj, who has first coronary arteriosclerotic heart disease with severe stenosing calcific coronary atherosclerosis, and so on and so forth.

Q. And was there any treatment for Mr. Karr's coronary arteriosclerotic heart disease?

A. I really have to ask what the context of the question is. If you are speaking of May 5, 1988, he received resuscitative maneuvers, which are, by the way, part of advanced cardiac life support that we talked about earlier. Unfortunately they were not successful in reversing the process. So he

received all of the treatment that would be mandated by his condition on May 5, 1988.

Q. And prior to May 5 of 1988, could his coronary arteriosclerotic heart disease have been treated?

A. It was being treated by control of hypertension, attempted control of diabetes, and he was also taking a calcium channel blocker in the form of Calan, and he was taking a beta-blocker in the form of Inderal, so all of these things are methods of treatment of coronary disease which we use on a daily basis on many people.

Q. Was there any other treatment for his coronary artery disease?

A. Possibility of nitroglycerin, either sublingual or transcutaneous or oral, but he wasn't having any anginal symptoms, so treatment of a nonexisting symptom would not be appropriate.

Q. So you would only treat his coronary arterial disease if he had any symptoms?

A. Yes.

Q. And what symptoms would those be?

A. Angina would be by far the most important one.

Q. Anything else?

A. Shortness of breath on exertion.

Q. Anything else?

A. None.

Q. Did Mr. Karr's hematocrit and hemoglobin have anything to do with his death?

A. I don't believe so.

Q. Why not?

A. Well, because most of our patients who have this kind of heart disease die suddenly without the provocation of recent operation and reduction in blood count, and I view Mr. Karr's death as being coincidental an not related in a causal way to the recent laminectomy because, as I just said before, th majority of people with this degree of ischemi heart disease will die suddenly without warnin and without a specific provocation.

Q. And that is based upon your experience with other patients?

A. It is.

Q. Doctor, do you have an opinion as to -- do you have any criticisms of any of the

doctors' care in this case?

A. No.

Q. Okay. Do you have any criticisms of any other nurses or hospital personnel or anybody else's treatment of Mr. Karr in this case?

A. No.

Q. Have we discussed all your opinion that you are going to give in this case?

A. I believe so.

Q. Doctor, you stated that you reviewed Dr. Singer's report.

A. I did.

Q. Dr. Singer is plaintiffs' expert i this case; is that right?

A. It is.

Q. Do you have any criticisms of Dr. Singer's report?

MR. BONEZZI: Objection to the for of the question.

MR. SCOTT: Objection. And doctor does not have the report in front of him.

Do you want him to go through a line-by-line analysis of it?

Q. However he wants to answer the

question is fine with me.

'Doctor, I am going to hand you Dr. Singer's report.

MR. SCOTT: We spent about three hours in which the testimony of this doctor ha been in opposition to Dr. Singer's report. Is there some specific item you want to ask him about?

Q. I just want an answer to my question. However he wants to answer it, that's fine.

MR. SCOTT: I object to the question.

A. Well, I think on page three of Dr. Singer's letter to you, under discussion, the first paragraph, I certainly can't agree with Dr. Singer when he attributes the drop -- he is referring to the depositions of Dr. Schnell and Dr. Tank in which they felt that the patient's drop in hemoglobin was strictly dilutional,

For purposes of discussion I will accept that, although I am sure Dr. Schnell and Dr. Tank realize that when you lose 880 cc's of blood that that's depletion as well as dilution.

Q. Doctor, let me stop you there for a second. I don't understand your use of the terms. What is depletion versus dilution?

A. Blood loss. Everybody, of course, recognized there was 880 cc's of attributable blood loss plus whatever was lost in the tissue in am unmeasured way. So there is depletion, and then there,was the infusion of nonblood-containing fluid, and we have talked about tha before, of course..

So as Dr. Schnell and Dr. Tank in their depositions said, that they thought at least part of the -- I'm sure I am paraphrasing here -- at least part of the drop in hemoglobin and hematocrit was because of the dilution as well as the depletion, we know he had lost blood.

Q. So it is your opinion that the dilution or the decrease in hemoglobin and hematocrit was due to two things; the dilution of, that means he was getting --

A. Nonblood fluids in.

Q. Right, in the form of IV fluids, and also it was partially due to the fact that he had lost blood --

A. Yes.

Q. -- which was not replaced?

A. Yes. Now, for instance, Dr. singe says something, I really can't agree with this and I am afraid the facts are not in his favor "It was the opinion of both physicians that this patient's drop in hemoglobin, manifested postoperatively, was strictly dilutional."

I can't believe that they thought it was strictly dilutional. When you lose 880 cc's of measured blood, that's not dilution, that's depletion.

Then he goes on to say, "I disagre with this conclusion since the patient's BUN did not drop but rather rose postoperatively, and this would be more compatible with prerena azotemia such as,gastrointestinal bleeding int the GI tract."

Well, this is true, except he didn't have it.

Q. What would be the evidence of GI bleed in Mr. Karr?

A. Well, the autopsy should have show it.

MR. BONEZZI: Can we take a short

break?

(Discussion.off the record.)

(Mr. Bonezzi left the deposition.)

Q. And then he goes on to say something else which I totally disagree with, "Although no bleeding was found on postmortem examination, this lack of finding of blood doe not rule out GI blood loss previously."

Well, it is a ridiculous statement.

Q. And it is ridiculous because why, in your opinion?

A. Well, we are dealing with a man in a three-day postoperative course who is being very closely observed. Now, if he lost whatever amount of blaod he would have to lose to drop to this level, it should have come out somewhere. It should have come out by vomiting blood, it should have come out as black stools or it should have been in the GI tract when he died, and it should have been found at autopsy, But you can't have it as a tenable statement when you don't have any proof of it.

So I think that that whole line of reasoning is totally unsubstantiated.

Q. So, doctor, you disagree with the proposition that Mr. Karr's hematocrit and hemoglobin, the drop was due to blood loss?

MR. SCOTT: No, he hasn't testifie to that, Nancy. He has said both dilution and depletion. Okay?

Q. Is your attorney correct when he testifies for you?

MR. SCOTT: I'm not his attorney.

MS. ILER: You see, John, when you don't interfere it would move a lot quicker.

MR. SCOTT: I just want you to listen to the doctor's answers.

MS. ILER: I am listening to the doctor's answers, and I am tired of listening to yours, actually.

MR. SCOTT: All right, go ahead.

Q. Do you want to answer my question, please?

A. Yes. My position, to restate it, is that he had blood loss, and he had dilution of his remaining blood. He had blood loss we know about, we have gone over that before, of course. He had dilution we know about, we hav gone over that before. On the day before deat

he had a 4,000 cc fluid intake -- yes, 4,000 cc's, at least 4,000 cc's, and he put out 1,200 cc's. Well, obviously he's got a positive fluid balance, 1,200 from 4,000.

So that's dilution. So to me, that explains the decrease in blood count, and to invoke a gastrointestinal blood loss and then not be able to show it either inside the body or outside the body, I think, is totally unsubstantiated.

Q. Do you have any other criticisms of Dr. Singer's report?

MR. SCOTT: I'd like to object to that question as well, since effectively the last three hours of deposition testimony have been critical of Dr. Singer's report.

A. Yes. For instance, the next paragraph, the second sentence, "Obviously, Mr Karr, who was 60 years of age, could not tolerate a hemoglobin drop from 13.8 to 7.6 grams within 48 hours without manifesting some cardiae irritability or neurologic deficit."

Well, he didn't have any manifestations of cardiac irritability and he didn't have any evidence of neurologic deficit

so I guess he could tolerate it.

Q. Well, if in fact he did have evidence of cardiac instability and --

A. No. Irritability,

Q. -- irritability and neurological symptoms, would that change your opinion as to whether that was attributable to his hematocri and hemoglobin?

A. We are assuming that he did have what he didn't have?

Q. That's right.

A. On the assumption he did have it, it wouldn't say it was due to that, as I testified before. Certainly the mental function had a lot of other things affecting it, and the same could be true for the cardiac

Then, of course, the next sentence I certainly don't agree with, "It is my opinio that the cause of this patient's demise was directly related to the fact that he was no longer getting adequate perfusion to his major organ systems, that is the heart, lungs, and brain."

Well, I don't see any evidence tha he was getting inadequate circulation to any o

those organs.

Q. So I understand your testimony, doctor, your testimony was that Mr. Karr was getting adequate perfusion to all his organs?

A. Yes. And then he goes on to say, "It is my opinion that this patient was highly susceptible to an arrhythmia in view of his history of diabetes, hypertension, and cardiovascular disease. The drop in hemoglobin, in my opinion, caused significant hypoperfusion of the myocardium as well as the brain, resulting in a cardiac event, most likely an arrhythmia or an ischemic episode leading to an arrhythmia."

Q. Can I stop you there, doctor?

A. Sure.

Q. Do you disagree with that?

A. Yes.

Q. Why?

A. Well, as I testified before, the majority of people who have coronaries like Mr. Karr die suddenly.

Q. Okay. I'm sorry.

A. But not in the setting of an operation, anemia, or any other event which

even in retrospect can be pointed to and to say, well, that's why he died.

Q. So doctor, you disagree with it that Mr. Karr was hypovolemic?

A. I do.

Q. You think he was hypervolemic, right?

A. Well, he certainly wasn't hypo. I am not sure about the hyper. He was not significantly hypervolemic. But he certainly was not hypovolemic, because he had quite a substantial fluid balance that was positive.

Q. Are you through with your criticisms of Dr. Singer's report?

A. Well, I'm not through with his report, so I may not be through with the criticisms.

Well, then he -- actually he is restating on the top of page three, "It is my opinion that the drop in hemoglobin was detrimental to his cardiovascular system and resulted, within reasonable medical certainty, to a cardiac event such as an arrhythmia which led to his immediate demise."

As I say, he is restating, and I

don't agree.

"This patient required supportive care postoperatively."

He did, and received it.

"It is my opinion that he did not receive such supportive care when transfusion was held back by both Dr. Tank and Dr. Schnell."

I don't agree.

Q. You don't agree because you don't believe that a transfusion was at any time required in Mr. Karr?

A. Right. Next paragraph, "In addition, this patient had a hypokalemia with potassium of 3.2 which further made him susceptible to the development of an arrhythmia. The combination of hypoperfusion and hypoxia and hypokalemia, in my opinion, le to the development of a terminal arrhythmia and/or cardiac arrest in this patient."

Well, a potassium of 3.2 is below normal, but only barely below normal, and usually cannot be causative in any particular event such as this.

And then the next paragraph, "It i

my opinion that the death of this patient was entirely preventable."

Obviously, I don't agree.

"Either Dr. Schnell or Dr. Tank could have transfused this patient so that hypoperfusion and hypoxia of this patient's vital organs would not have occurred. To ascribe his drop in hemoglobin strictly to dilutional factors, in my opinion, is absurd," so on and so forth.

So I don't agree with any of those statements.

Then the last full paragraph, "Finally, it is my opinion that this patient's confusional state postoperatively was related to the drop in hemoglobin and his hypoperfusion state."

I am not impressed that he was confused.

**Furthermore,the complications related to hypocalcemia" -- I think he means hypokalemia -- "and other electrolyte imbalance, in my opinion, contributed directly to the development of the cardiac event, which in my opinion was a terminal arrhythmia."

Well, I think it was a terminal arrhythmia. That is about the only thing we find ourselves in agreement. Otherwise, I find considerable disagreement with your plaintiff' expert.

Q. Doctor, does decrease in oxygen to the heart cause cardiac arrhythmia?

A. It may.

Q. How does it do that?

A. Making the heart muscle more irritable.

Q. Doctor, do you have an opinion as to why Mr. Karr was given oxygen?

A. Well, that is a standard procedure postoperatively for a variety of reasons. Because of postoperative pain the patient may not be breathing as deeply as he should, so th oxygen makes him more comfortable and also raises the oxygen content in the blood.

Q. Do you have an opinion as to why Mr. Karr was getting oxygen?

A. Standard postoperative care.

Q. For pain?

A. For pain and for oxygenation of th blood.

Q. And why was that required in Mr. Karr?

A. We use it routinely after operations.

Q. You are saying it is just a routine, thing --

A. Yes.

Q. -- for patients to get oxygen after surgery?

A. Yes.

Q. Doctor, what's dilutional therapy?

A. Dilutional therapy?

Q. Yes.

A. It is intravenous fluids.

Q. That is your understanding of dilutional therapy?

A. Yes. I am a little puzzled by the term, because we don't tend to think of it as dilutional therapy. We tend to think of it as intravenous fluids. The result may be dilution, but at least medically we don't use the term of dilutional therapy.

Q. So you are not familiar with the therapy whereby you give patients fluids instead of replacing their blood volume?

A. Well, that, as I say, I'm not used

going to maintain body fluids.

order to treat somebody's condition postoperatively?

A. I am.

Q. And what types of patients would you perform dilutional therapy in?

A. Well, anyone who's lost a fair amount of blood but in whom you realize that the risks of giving transfusion may counterbalance the benefits of receiving the transfusion, and in patients who are anemic postoperatively but are not showing any objective or subjective signs of impairment

use that term, may very well get the patient through the postoperative period.

Q. So it is given to patients who you

A. Well, you are concerned about it only because they are now anemic when they weren't anemic before the operation. The classic example, of course, is the person who has open heart surgery in whom there is considerable blood loss, but we try not to transfuse the patient because of the possible risks of transfusion, and if the patient's circulating volume can be kept up by nonblood-containing fluids, and the patient isn't showing any subjective or objective signs of

get through the postoperative period without any complications.

Q. Doctor, when you talk about the risks of blood transfusion, what are you referring to?

A. Risk of a blood transfusion reaction because of mismatching of blood, risk of the minor subgroup reactions which may

manifest by chills and fever, and of course more importantly the possibility of the acquisition of hepatitis B or hepatitis C, and of course most importantly, the acquisition of AIDS in transfused blood.

Q. Was the blood at Deaconess Hospita tested for AIDS in 1988?

A. I have no idea.

Q. Do you know what the risk of getting AIDS from a blood transfusion is?

A. I have no idea.

Q. Do you have an opinion as to what the risks of getting hepatitis B from a blood transfusion are?

A. I don't know.

Q. Do you know if the blood at Deaconess Hospital was tested for hepatitis B?

A. No. I don't know.

Q. Is the blood at your hospital, Fairview, tested for hepatitis B?

A. I believe it is.

Q. Is the blood also tested for hepatitis C?

A. Only recently has that been possible to test.

Q. Okay.

because of these risks, are you?

A. No. He was not transfused because there wasn't any objective evidence that he needed a transfusion.

Q. If, in fact, he needed a transfusion you would think it would have been, given even in spite of these risk factors; is that true?

A. Yes. You would treat the present indication rather than worry about the future consequence.

Q. Okay. Doctor, what types of patients do you perform dilutional therapy in?

A. Well, the most common one, of course, would be our patients who have open heart surgery.

Q. Do you believe Mr. Karr had dilutional therapy?

A. He had dilutional therapy from the standpoint of receiving large volumes of intravenous fluids in the postoperative period.

Q. And why was he a candidate for

Was the fluids that he was getting, intravenously, was that a substitute for the blood transfusion?

A. It would help to be a substitute in terms of maintaining adequate blood volume so that he could pump the remaining red blood cells around the circulation at a more rapid rate.

Q. But you don't equate giving intravenous fluids with getting a blood transfusion?

A. No. Intravenous fluids, as I said before, does not carry oxygen, but it makes it possible to maintain the circulation.

Q. Was the dilutional therapy successful in Mr. Karr?

A. Yes. He was asymptomatic from the standpoint of oxygen requirements being met.

Q. And do you believe that a patient such as Mr. Karr who is 60 years old, has a

MS. ILER: And Mr. Bonezzi has no questions. He's not here, nor did he reserve the right to ask any questions of the doctor.

MR. SCOTT: The deposition is concluded.

history of diabetes and hypertension, is a candidate for dilutional therapy?

A. Yes.

Q. Why is that?

A. Because he would be benefited by maintaining his circulating blood volume in the presence of the anemia secondary to the operation.

Q. Would he also be benefited from a blood transfusion to treat his anemia?

A. Yes.

Q. Okay. Doctor, let me just look over my notes to make sure that I have asked you everything.

(Recess taken.)

- - - - -

(Thereupon, Watts Deposition Exhibit 7 was mark'd for purposes of identification.)

- - - - -

Q. Doctor, I have marked Dr. Singer's report as Exhibit Number 7. That is the repor that you were reading from when I had asked yo what your criticisms were of Dr. Singer's report?

CERTIFICATE

The State of Ohio,)

SS:

County of Cuyahoga.)

I, Heidi L. Geizer, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that the within named witness, RICHARD W. WATTS, M.D., was by me first duly sworn to testify the truth, the whole truth and nothing but the truth in the cause aforesaid; that the testimony then given by the above-referenced witness was by me reduced to stenotypy in the presence of said witness; afterwards transcribed, and that the foregoing is a true and correct transcription of the testimony so given by the above-referenced witness.

I do further certify that this deposition was taken at the time and place in the foregoing caption specified and was completed without adjournment.

I do further certify that I am not a relative, counsel or attorney for either party, or otherwise interested in the event of

Cleveland, Ohio, on this 22nd day of July, 1992.

Heidi L. Geizer

Heidi L. Geizer, Notary Public
within and for the State of Ohio

My commission expires January 22, 1995.

LAWYER'S NOTES

PAGE	LINE	

Cefaratti, Rennilio & Matthews
Computerized Reporters
Statler Office Tower
Cleveland, Ohio 44115
Phone 216-687-1161

Richard W. Watts, M.D., Inc.

3885 ROCKY RIVER DRIVE • CLEVELAND, OHIO 44111
(216) 941-7616

RICHARD W. WATTS, M.D., F.A.C.P., F.A.C.C.
CERTIFIED: CARDIOLOGY AND INTERNAL MEDICINE

THOMAS J. COMERFORD, M.D., F.A.C.C.
CERTIFIED: CARDIOLOGY AND INTERNAL MEDICINE

CHRISTOPHER SUNTALA, M.D.
CERTIFIED INTERNAL MEDICINE CARDIOLOGY

CURRICULUM VITAE - RICHARD W. WATTS, M.D. - 1991

Education

1942 B. Sc. Pennsylvania State University
1946 M.D. Western Reserve University School of Medicine
Intern, Department of Medicine, University Hospitals of Cleveland
1947 Jr Asst Res, " " " " " "
1947-48 Jr. Asst. Res., Dept. of Pathology " " " "
1948-50 1st Lt. & Captain, U.S. Army Medical Corps, Pathologist and Laboratory Officer, 361st Station Hospital, Tokyo, Japan
1950-51 **Asst** Res, Dept. of Medicine, University Hospital of Cleveland
1951-52 Cardiology Fellow, University Hospitals of Cleveland

Certifications: American Board of Internal Medicine **1955**
Subspecialty Board in Cardiovascular Diseases **1959**

Appointments: Assistant Clinical Professor of Medicine,
Case Western Reserve University School of Medicine
since **1980** Medical Director, Kemper Cardiac Unit, Fairview Genl. Hospital
1960 to 1985 Chief, Cardiology Section, " " "
since **1958** Active Staff " " "
1961-3 Chief, Department of Medicine " " "
Adjunct Staff, Lakewood Hospital
Assistant Physician, Cleveland Metropolitan General Hospital
Consulting Staff, Lutheran Medical Center
Courtesy Staff, St. John & West Shore Hospital
Affiliate Faculty, Basic Life Support, Heart Association of **NE** Rhio
" " Advanced Cardiac Life Support, Heart Assn. of NE Ohio

Achievements: Founder of Coronary Care Unit, Fairview General Hospital, first in northern Ohia and one of the first in the country
Founder of the paramedic program at North Olmsted Fire Department, first in Northern Ohio

Professional Organizations: Cleveland Academy *of* Medicine
Ohio State Medical Association
American Medical Association
Royal Society of Medicine
American College of Physicians, Life Fellow
American Heart Association
Fellow of the Council on Clinical Cardiology
American College of Cardiology, Fellow

Awards: Alpha Omega Alpha (medical school honorary)
Meritorious Service, American Heart Association
Honorary Life Member and former President, Board of Trustees, Heart Association of Northeastern Ohio
Development for Progress Award, Board of Trustees, Fairview General Hospital
123rd Luis Guerrero Lecturer, University of Santo Tomas School of Medicine, Manila, Philippines

Author of 15 scientific publications

IN THE COURT OF COMMON PLEAS
CUYAHOGA COUNTY, OHIO

IRENE KARR, Executrix of the Estate of Ray Karr, Deceased,

Plaintiff

vs.

DR. FREDERICK SCHNELL, et. al.,

Defendants

CASE NO. 175790

JUDGE MICHAEL GALEAGHER

PLAINTIFF'S NOTICE OF DEPOSITION DUCES TECUM FOR RICHARD W. WATTS, M.D.

Counsel will take notice that the undersigned will take the deposition of RICHARD W. WATTS, M.D. on Monday, the 6th day of July, 1992, at 9:00 A.M., at Dr. Watts' office at 3885 Rocky River Drive, Cleveland, Ohio 44111.

This deposition is taken pursuant to Rule 30 of the Ohio Rules of Civil Procedure. The oral examination will continue from day to day until completed and may be used as evidence in the trial of the above-entitled matter.

No subpoena will be served. Should the witness fail to appear at the designated time and place, a request for sanctions will be made in accordance with Rule 37(D) of the Ohio Rules of Civil Procedure.

DUCES TECUM

Bring with you to the deposition:

1. All materials you reviewed in connection with the above-entitled case;

2. All medical literature, periodicals, books, etc. that you reviewed in connection with this case;

3. Your updated Curriculum Vitae;

4. All reports and notes made in connection with this case.

Respectfully submitted,

NANCY C. ILER (0038955)
DON C. ILER CO., L.P.A.
1640 Standard building
Cleveland, Ohio 44113
(216) 696-5700

Attorney for Plaintiff

PROOF OF SERVICE

A copy of the foregoing Notice of Deposition For Richard W. Watts, M.D. was mailed this 17 day of June, 1992 to John R. Scott, Esq., Reminger & Reminger Co., L.P.A., 113 St. Clair Avenue, N.E., Fourth Floor, Cleveland, Ohio 44114, Attorney for Defendant Dr. Frederick Schnell: and to William D. Bonezzi, Esq., Jacobson, Maynard, Tuschman & Kalur Co., L.P.A., 1001 Lakeside Avenue, Suite 1600, Cleveland, Ohio 44114, Attorney for Defendants Dr. Thomas M. Tank and Neurological Associates, Inc.

NANCY C. ILER
Attorney for Plaintiff

Richard W. Watts, M.D., Inc.

3885 ROCKY RIVER DRIVE • CLEVELAND, OHIO 44111
(216) MI-7616

RICHARD W. WATTS, M.D., F.A.C.P., F.A.C.C.
CERTIFIED: CARDIOLOGY AND INTERNAL MEDICINE

THOMAS J. COMERFORD, MD., F.A.C.C.
CERTIFIED: CARDIOLOGY AND INTERNAL MEDICINE

CHRISTOPHER SUNTALA, M.D.
CERTIFIED: INTERNAL MEDICINE CARDIOLOGY

December 8, 1991

John R. Scott, Esq.,
Reminger & Reminger Co. LPA,
Cleveland, Ohio 44114-1273

Re: Irene Karr v Frederick Schnell, M.D., et al.
Cuyahoga County Common Pleas Case # 175790
Your File # 3600-02-16773-89

Dear Mr. Scott,

At your invitation I have reviewed the following documents in the above titled legal action:

Office records of Dr. Schnell
Deaconess Hospital records of Ray Karr, May 2-5, 1988
Office records of Dr. Tank
Autopsy report
Deposition of Dr. Schnell on October 4, 1990
Deposition of Dr. Tank on October 31, 1990
Letter of Dr. Singer on June 26, 1991

Based upon this review and in the light of my training and experience in caring for patients of similar background, I can state with reasonable medical certainty that Dr. Schnell met the accepted standard of care in his treatment of Mr. Karr.

Sincerely,

Richard W. Watts, M.D.

DEPOSITION EXHIBIT
Watts 3
7-6-92

me: KARR, RAY

Hospital Number: 1726058

Requested by: T. TANK, M.D.

Consulting: P. SCHNELL, M.D.

Date:

Hospital
4229 PEARL ROAD, CLEVELAND, OHIO 44109

PRESENTING PROBLEM: Lumbar disc disease, preoperative evaluation and multiple underlying medical problems.

MEDICAL HISTORY: This 60 year old energetic and ambitious male has a significant background of medical problems which remotely include an appendectomy in 1944. In 1969 he developed the onset of major hypertension and since then has been on increasing increments of medications with semi-effective control of blood pressure. In 1969 he developed the onset of symptomatic diabetes and by 1975 he required insulin for control. His gradually increasing insulin doses have in part been related to poor adherence to diabetic dieting. In 1979 he was recognized to have diabetic retinopathy and since that time he has been followed for the same through Cleveland Clinic. He's had multiple laser treatments particularly on the right side with substantial preservation of vision.

In 1981 he underwent angiography for evaluation of carotid bruits and was found to have 80% stenosis of the right internal carotid artery and 95% stenosis of the left internal carotid artery. At the same time he underwent routine cardiac catheterization and this showed minimal irregularities of the right coronary artery and left anterior descending artery without obstruction. There was 40-50% obstruction in the proximal bifurcation of the posterolateral branch of the circumflex coronary artery. None of these lesions were thought to be hemodynamically significant. In August 1981 he underwent a left carotid endarterectomy and in February 1982 underwent a right internal carotid endarterectomy. In 1984 he underwent right cataract surgery.

In December 1984 he sustained an industrial back injury and he's had ongoing radicular pain since. For evaluation and management of the same he has had prior chiropractic and orthopedic evaluations and multiple conservative treatments. Despite this his disability has been increasing and is such, now that he has been unable to pursue his employment as a bricklayer and marble worker. At the time of his last examination prior to referral to Dr. Tank he was also found to have some decreased leg pulses associated with left calf claudication. It was not certain whether the left calf claudication was neurogenic or vascular.

Following evaluation and studies by Dr. Tank he is programmed for a lumbar laminectomy tomorrow.

On systems review there are no significant problems, not covered in the present illness.

CONTINUED

Name: KARR, RAY

Hospital Number: 1726058

Requested by: T. TANK, M.D.

Consulting: P. SCHNELL, M.D.

Deaconess Hospital
4229 PEARL ROAD, CLEVELAND, OHIO 44109

PHYSICAL EXAMINATION: Temperature is 37 and pulse is 80, blood perssure is 160/90. Patient appeared well developed and moderately obese, in no particular distress. The skin is generally dry and clear. EYES: Lens implant in the right. Multiple laser scars in the right and a few in the left plus bilateral diabetic scars. EARS: normal. NOSE AND THROAT: Normal. NECK: supple. Endarterectomy scar is noted. Thyroid is not enlarged. LYMPHATICS: normal. LUNGS: clear to percussion and auscultation. CARDIOVASCULAR: normal precordial activity, regular rhythm: Grade, 2/6 left sternal border murmur. There are no carotid bruits. The right femoral pulse is slightly diminished compared to the left. Both popliteal pulses are intact but diminished. The left posterior tibial and dorsalis pedal pulses are absent. The right posterior tibial pulse is absent, but the right dorsalis pedal pulse is fairly normal. ABDOMEN: soft and obese. Appendectomy scar is noted. BACK; no major deformities. EXTREMITIES: No edema. No joint deformities. GENITALIA: normal. RECTAL: examination done four months ago and the prostate was 1-2 plus symmetrically enlarged. NEUROLOGICAL: see neurosurgical report.

IMPRESSION:
1) Lumbar disc disease, precipitated by industrial trauma.
2) Diabetes mellitus, on insulin - poor control.
3) Long standing hypertension.
4) Diabetic retinopathy.
5) Minimal non-obstructive coronary disease - non-symptomatic.
6) Status post asynchronous bilateral internal carotid endarterectomies.
7) Vascular insufficiency of the lower extremities.
8) Benign prostatic hyperplasia.

RECOMMENDATIONS: Despite the multiplicity of medical problems and despite the long list of medications used to control the same patient is generally in reasonably stable condition in relation Po the planned surgery. His diabetes; hypertension and other medical problems will be managed postoperatively.

Dictated by,

P. SCHNELL, M.D.

FS:MRC#30
D: 5-2-88
T: 5-3-88
TAPE#: 537

KAPP, FAY

60 yeors ♂

2 MAY 1988 2:19:15 PM

DEPOSITION EXHIBIT Watts 5 7-6-92 LA

RATE	71
PR	216
QRSD	67
QT	375
QTC	407

--MIS--

P	25
QRS	-32
T	31

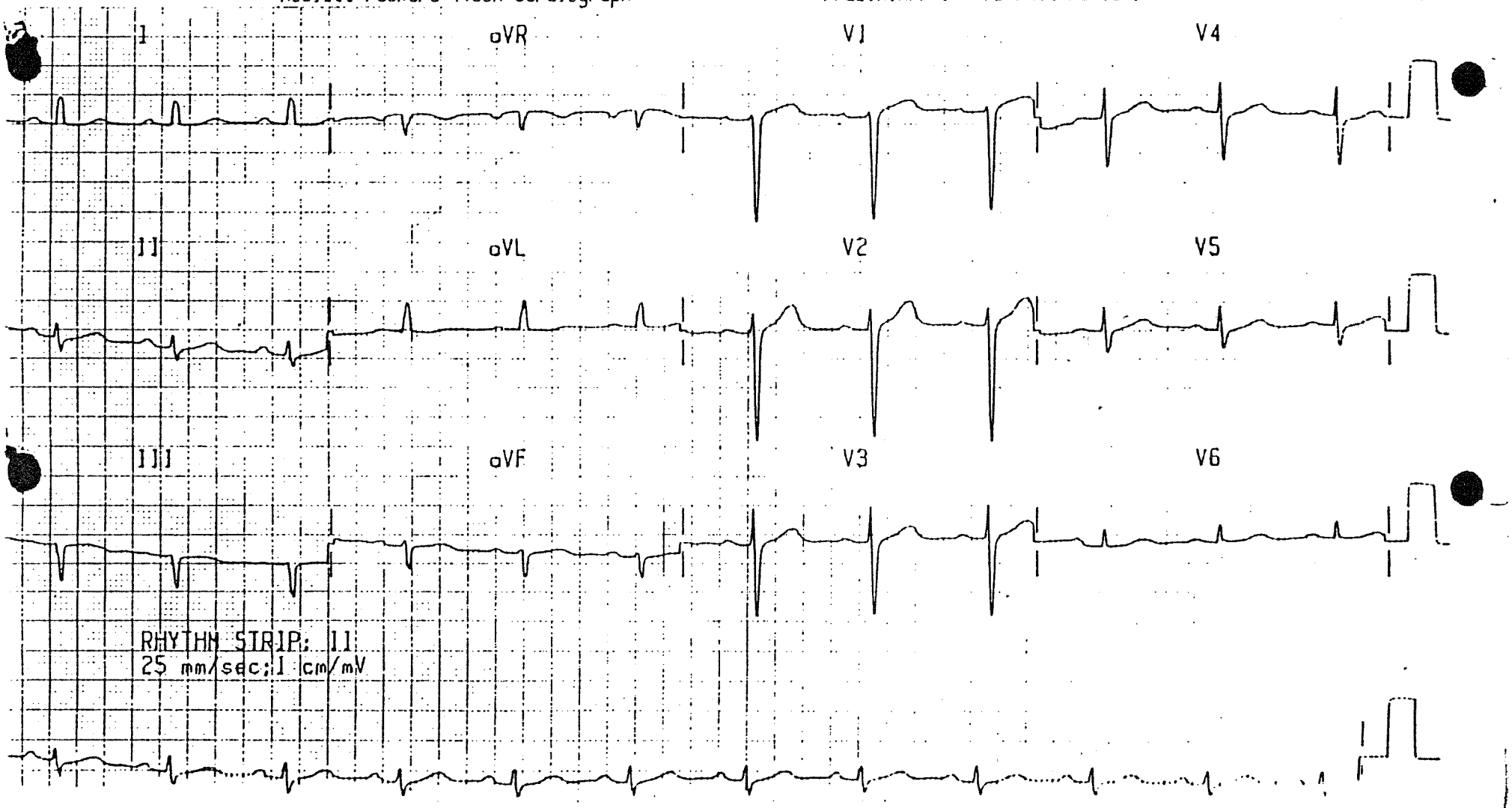
. SINUS RHYTHM, RATE 71
. FIRST DEGREE AV BLOCK
. LEFT AXIS DEVIATION
. BORDERLINE LOW VOLTAGE IN FRONTAL LEADS

-ABNORMAL ECG-

Abnormal because of low grade 1° A-V block

Oper DA Room 20C-1

FRONTAL Hewlett Packard 4765A Cardiograph PRELIMINARY. MD must review. HP-507



KARP, RAY 706-01
1-72605-8 058 M 5/07/27 60
TANK T ETSS FSchnell

5 MAY 1988 7:47:01 AM

60 years ♂

QRS
P
HORIZONTAL

RATE	98
PR	179
QRSD	93
QT	358
QTC	457

--AXIS--

P	67
QRS	4
T	120

. NORMAL SINUS RHYTHM, RATE 98
. LOU VOLTAGE IN FRONTRL LEROS
. RNTEROLRTERAL ST-T ABNORMALITIES
. . CONSISTENT WITH ISCHEMIA &/OR SUBENDO. INJ.

Compared to 5/2/88 -ABNORMAL ECG-

there are NEW ST Chg

DEPOSITION EXHIBIT
Watts 6
7-6-93 HC
PENGAD-Bayonne, N. J.

12-93-41

FRONTAL

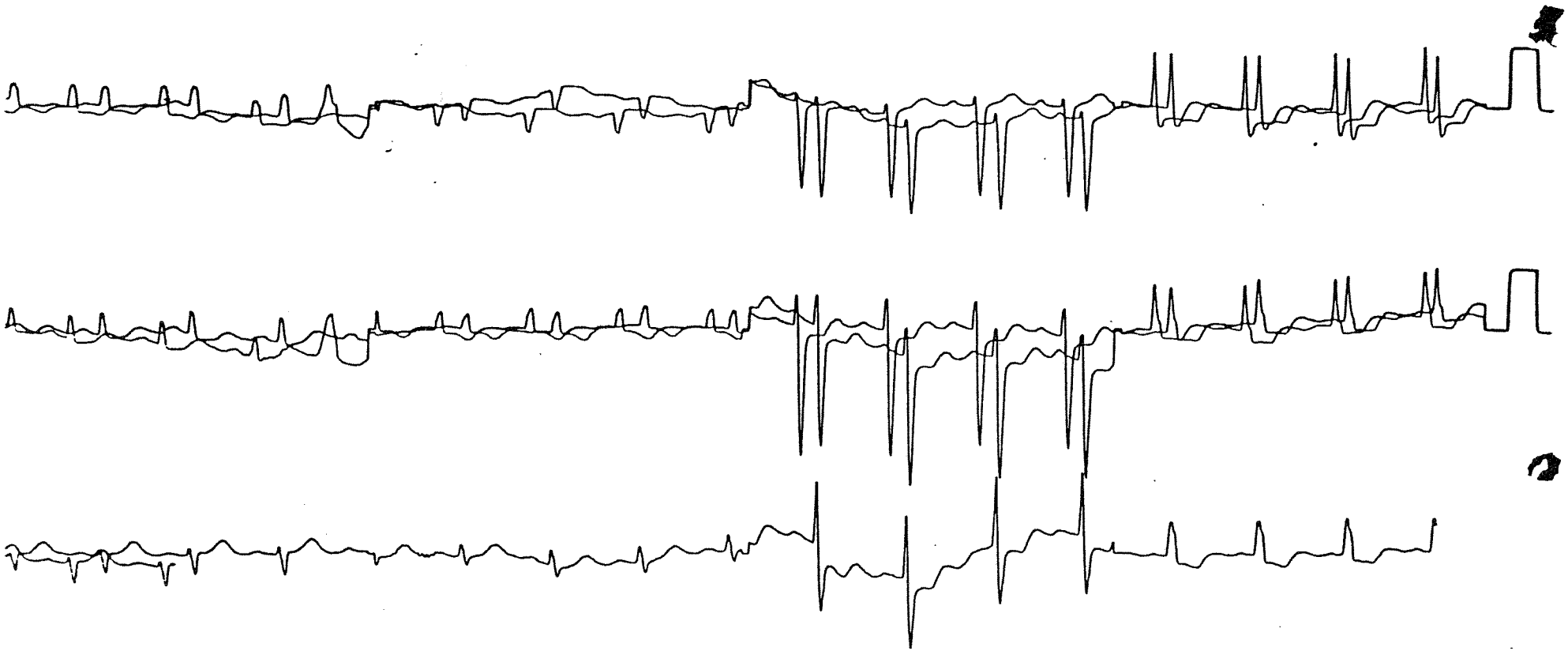
Hewlett Pockard 4765A Cordiograph

PRELIMINARY. MD must review.

Oper OR Room 706-1
HP507

I pVR V1 V4
II pVL V2 V5
III pVF V3 V6

RHYTHM STRIP: II
25 mm/sec; 1 cm/mV



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BARRY L. SINGER. M.D.
1544 DEKALB STREET
NORRISTOWN, **PENNSYLVANIA** 19401

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TELEPHONE
(215) 279.7696

June 26, 1991

Nancy Iler, Esquire
1640 Standard Building
Cleveland, Ohio 44113

Re: Ray Karr, deceased

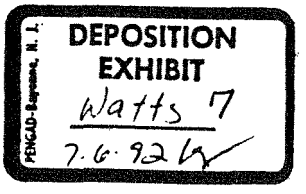
Dear Ms. Iler:

At your request, I have reviewed extensive records regarding the above captioned. These records include treatment records from Deaconess Hospital inclusive the dates May 2, 1988 to May 5, 1988. I have also reviewed a report of the coroner's office of Cuyahoga County regarding an inquiry on the death of Mr. Karr. I have reviewed Cleveland Clinic records from 1981 and 1982 regarding the patient's prior surgeries and cardiac catheterization. Finally, in its entirety, I have reviewed the depositions of Dr. Schnell and Dr. Tank.

Upon completion of my review of these records it is my opinion that the care rendered to Mr. Karr by Dr. Schnell and Dr. Tank was below accepted medical standards. It is my opinion that the death of Mr. Karr was directly the result of hypoperfusion of the patient's myocardium which resulted in a cardiac event leading to his death. In the following paragraphs I will briefly summarize the patient's history and comment further regarding the care that he received from Dr. Schnell and Dr. Tank.

The records indicate that Mr. Karr, described as an energetic and ambitious male of 60 years, was under the care of Dr. Schnell for several years prior to his surgery in May 1988. The patient had a prior history of an appendectomy in 1944. Since 1969 he had been under the care of Dr. Schnell for the treatment of hypertension. In addition, the patient developed diabetes mellitus, and in 1975 was insulin dependent. In 1979, he suffered further complications of diabetes when he was diagnosed as having diabetic retinopathy and had been followed at the Cleveland Clinic. He had received several laser treatments.

In 1981, the patient underwent angiography of the head vessels and was



diagnosed as having an 80% stenosis of the right internal carotid and 95% stenosis of the left internal carotid. He also underwent cardiac catheterization, but was not found to have significant obstructive disease of the coronaries. In August 1981, he underwent a left internal carotid endarterectomy, and in February 1982, underwent a right internal carotid endarterectomy.

In 1984, the patient sustained a severe lower back injury while at work in December. He was able to return to work, but then complained of severe low back and bilateral leg pain. A lumbar CT scan in January 1985 revealed a herniated nucleus pulposis of the right L4-L5, bilateral recessed stenosis at L5-S1, and spondylosis and spondylo-arthrosis at L2, L4 and L5.

The patient was initially treated conservatively. However, he again developed increasing pain several months later with radiation to the right and left hip, and down the left leg into L5 and S1 dermatomes. Chiropractic treatments were of no avail. It was then decided that the patient would require surgery. He was seen by Dr. Tank, and admitted to the Deaconess Hospital on May 2, 1988.

The patient was seen on cardiac consultation and clearance by Dr. Schnell. As Dr. Schnell states in his deposition, the patient had no acute cardiac problems. His diabetes had been managed with insulin. He was on medications to control his hypertension at the time of surgery. He was cleared for surgery.

A CBC on admission revealed a white count of 7,300, hemoglobin 13.8 grams, hematocrit 39.6%. It should be noted that his other chemistry studies revealed a BUN of 29 mg/percent which was slightly elevated over normal, and creatinine of 1.9 mg/percent which was slightly elevated to the top normal 1.3 mg/percent.

The patient underwent the surgery uneventfully. Post-operatively, initially, the patient complained of some back pain, but was able to take fluids well,

The surgery was performed on May 3. It should be noted that on May 4, the first post-operative day, the patient was considered by Dr. Tank to be inappropriate and confused. A blood count obtained this day, including a hemoglobin/hematocrit, showed a 5 gram reduction in hemoglobin 13.8 to 8.8 grams, and the hematocrit dropped to 26%. It should be noted also that a BUN done on this date, instead of showing a fall as one would expect in dilutional changes since the patient had received several thousand cc of fluid intraoperatively and post-operatively, showed rather a rise to 43 mg/percent from the prior pre-op 29 mg/percent. The hemoglobin of 8.8

grams was recognized, since it is noted in the progress notes by Dr. Tank.

On the second post-operative day, the patient remained afebrile. He had some wheezing. However, he was still inappropiate and his hemoglobin had now fallen further to 7.5 mg/percent and his hematocrit to 22.5%. His blood gases on nasal oxygen were normal.

No transfusions were ordered for this patient by either Dr. Tank or Dr. Schnell on May 5th, the second post-operative day. Later that day, the patient developed asystole. CPR was performed, but this was unsuccessful and the patient was pronounced dead at 10:30 a.m. on May 5th.

Lab studies on May 5th revealed a significant hypokalemia with a potassium of 3.2 and a moderate hyponatremia with a sodium of 125. In addition, the BUN was elevated to 41, and the creatinine measured at 1.5.

Discussion

From review of the records, it is evident that Mr. Karr post-operatively had a significant drop in his hemoglobin and hematocrit. I have reviewed the depositions of Dr. Schnell and Dr. Tank. It was the opinion of both physicians that this patient's drop in hemoglobin, manifested postoperatively, was strictly dilutional. I disagree with this conclusion since the patient's BUN did not drop but rather rose post-operatively, and this would be more compatible with pre-renal azotemia such as gastrointestinal bleeding into the GI tract. Although no bleeding was found on post-mortem examination, this lack of finding of blood does not rule out GI blood loss previously.

In any case, whatever the source of the drop of hemoglobin, it is my opinion that rectification of this situation was mandatory in this patient. Obviously, Mr, Karr who was 60 years of age could not tolerate a hemoglobin drop from 13.8 grams to 7.6 grams within 48 hours without manifesting some cardiac irritability or neurologic deficit. It is my opinion that the cause of this patient's demise was directly related to the fact that he was no longer getting adequate perfusion to his major organ systems, i.e. the heart, lungs and brain. It is my opinion that this patient was highly susceptible to an arrhythmia in view of his history of diabetes, hypertension and cardiovascular disease. The drop in hemoglobin, in my opinion caused significant hypoperfusion of the myocardium as well as the brain resulting in a cardiac event, most likely an arrhythmia or an ischemic episode leading to an arrhythmia.

It is evident that this patient did tolerate the surgery well. The cause of his death is related to his post-operative care and management of

his cardiovascular system. It is my opinion that the drop in hemoglobin was detrimental to his cardiovascular system, and resulted, within reasonable medical certainty, to a cardiac event such as an arrhythmia which led to his immediate demise. This patient required supportive care post-operatively. It is my opinion that he did not receive such supportive care when transfusion was held back by both Dr. Tank and Dr. Schnell.

In addition, this patient had a hypokalemia with a potassium of 3.2 which further made him susceptible to the development of an arrhythmia. The combination of hypoperfusion, hypoxia, and hypokalemia, in my opinion, led to the development of a terminal arrhythmia and/or cardiac arrest in this patient.

It is my opinion that the death of this patient was entirely preventable. Either Dr. Schnell or Dr. Tank could have tranfused this patient so that hypoxia and hypoperfusion of this patient's vital organs would not have occurred. To ascribe his drop in hemoglobin strictly to dilutional factors, in my opinion, is absurd. The patient's BUN did not decrease,x but rather increased post-operatively, indicative of ischemia/bleeding, and/or organ damage related to his state, but definitely not a dilutional situation.

Finally, it is my opinion that this patient's confusional state post-operatively was related to the drop in hemoglobin and his hypoperfusion state. Furthermore, the complications related to hypocalcemia and other electrolyte inbalance, in my opinion contributed directly to the development of the cardiac event, which in my opinion was a terminal arrhythmia.

I will be happy to discuss further my comments regarding this case at any future time.

Sincerely yours,

Barry L. Singer, M.D.

BLS/r1y
encl.