

THE STATE of OHIO :
COUNTY of CUYAHOGA. : SS:

Doc. 448

- - - - -
IN THE COURT OF COMMON PLEAS
- - - - -

IRENE KARR, executrix of :
the estate of Raymond Karr, :
 plaintiff, :
 : :
vs. : Case No. 175700
 : :
FREDERICK SCHNELL, M.D., :
et al., :
 defendants. :
 - - - - -

Deposition of RICHARD WATTS, M.D. a
witness herein, called by the defendant Frederick
Schnell, M.D. for the purpose of direct examination
pursuant to the Ohio Rules of Civil Procedure,
taken via videotape and court reporter before
Constance Campbell, a Notary Public within and for
the State of Ohio, at the offices of Flowers &
Versagi Court Reporters, The 113 Saint Clair
Building, Cleveland, Ohio, on Monday, the 22nd day
of February, 1993, commencing at 2:00 p.m. pursuant
to agreement of counsel.

9/12/93



FLOWERS & VERSAGI

COURT REPORTERS
Computerized Transcription
Computerized Litigation Support
THE 113 SAINT CLAIR BUILDING - SUITE 505
CLEVELAND, OHIO 44114-1273
(216) 771-8018
1-800-837-DEPO

1 APPEARANCES:

2
3 ON BEHALF OF THE PLAINTIFF:

4 Don C. Iler, Esq.
5 Nancy C. Iler, Esq.
6 Don C. Iler Co., L.P.A.
7 Standard Building
8 Cleveland, Ohio 44113
9 (216) 696-5700.
10 - - - - -

11
12 ON BEHALF OF THE DEFENDANT FREDERICK SCHNELL, M.D.:

13 John R. Scott, Esq.
14 Reminger & Reminger
15 The 113 Saint Clair Building
16 Cleveland, Ohio 44114-1273
17 (216) 687-1311.
18 - - - - -

19 ON BEHALF OF THE DEFENDANT THOMAS TANK, M.D.:

20 William D. Bonezzi, Esq.
21 Jacobson, Maynard, Tuschman & Kalur
22 1001 Lakeside Avenue
23 Cleveland, Ohio 44114
24 (216) 736-8600.
25 - - - - -

Also Present:
Frank P. Versagi, Videographer

I N D E X

WITNESS:RICHARD WATTS, M.D.

	<u>PAGE</u>
Direct examination by Mr. Scott	4
Cross-examination by Mr. Iler	26
Cross-examination by Mr. Bonezzi	89
Redirect examination by Mr. Scott	96
Recross-examination by Mr. Iler	103
Further redirect examination by Mr. Scott	107

- - - - -

WATTS DEPOSITION EXHIBITSMARKED

1 - Handwritten notes by Dr. Watts	105
2 - Handwritten notes by Dr. Watts	105

- - - - -

(FOR KEYWORD AND OBJECTION INDEX SEE APPENDIX)

- - - - -

RICHARD WATTS, M.D.

of lawful age, a witness herein, called by the defendant Frederick Watts, M.D. for the purpose of direct examination pursuant to the Ohio Rules of Civil Procedure, being first duly sworn, as hereinafter certified, was examined and testified as follows:

- - - - -

DIRECT EXAMINATION

BY MR. SCOTT:

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

A. Richard Ward Watts, M.D.

Q. Will you also state for the record your profession.

A. Yes. I'm a physician certified in internal medicine and cardiology.

Q. Where do you practice, Doctor?

A. Mainly at Fairview General Hospital. I'm Also on the staff at St. John and Westshore and Lakewood Hospital. I am also an Assistant Physician at Metropolitan General Hospital.

Q. Will you tell the jury your specialty, please, Doctor?

A. As I said before, I'm Board certified in both

1 internal medicine and cardiology. My main practice
2 is that of cardiology.

3 Q. Doctor, I've asked you to look at the records
4 in this case, to give your opinion to the jury as
5 to whether the care by Dr. Schnell in this case met
6 accepted standards.

7 Have you reached an opinion whether
8 the care by Dr. Schnell met accepted medical
9 standards in this case.

10 MR. ILER: Note my
11 objection.

12 A. I have.

13 Q. Before we reach your opinions, Doctor, before
14 you tell them to the jury, the jury needs to know
15 about your expertise in these areas.

16 You mentioned that you are a
17 cardiologist. Would you please tell the jury what
18 is meant by a cardiologist, what does a
19 cardiologist do?

20 A. A cardiologist is a physician whose training,
21 background and experience and dedication is to the
22 treatment of patients with cardiovascular
23 diseases. This, of course, is rather broad.

24 It includes people who have
25 coronary artery disease, hypertension, rheumatic

1 heart disease, congenital heart disease and
2 includes the complications of heart failure and it
3 includes a number of disciplines that are
4 relatively new such as heart catheterization.

5 It also includes the knowledge of
6 the ways of evaluating patients by way of reading
7 the x-rays, electrocardiograms, echocardiograms and
8 of course most importantly it includes the
9 knowledge of medications used to treat patients
10 with the various complications of heart disease.

11 Q. Doctor, how long have you been a
12 cardiologist?

13 A. I have been in practice 40 years. I have
14 been a Board certified cardiologist for over 30
15 years.

16 Q. Do you teach, Doctor?

17 A. Yes. I'm Assistant Clinical Professor of
18 Medicine at Case Western Reserve University School
19 of Medicine. I also have teaching duties at
20 Fairview General Hospital, where I'm involved in
21 the internal medicine training program as well as
22 the family practice training program.

23 Q. Do you hold any positions at the hospitals
24 which you mentioned?

25 A. At Fairview General Hospital I am the founder

1 and still the Medical Director of the Coronary Care
2 Unit, which has been open now 29 years. I also am
3 chairman of the critical care, vice-chairman of the
4 Ethics Committee of the hospital.

5 Q. Do you spend at least 75 percent of your time
6 in the clinical practice of medicine, Doctor?

7 A. I do.

8 Q. Have you had occasion to care for patients
9 with the conditions of Mr. Raymond Karr, as in this
10 case?

11 A. Yes, I have.

12 Q. Have you also had occasions to care for
13 patients with those conditions who have undergone
14 surgery?

15 A. Yes.

16 Q. In this case, Doctor, would you tell the jury
17 what you reviewed in preparing to come to your
18 opinions?

19 A. Well, Mr. Scott, most importantly I reviewed
20 the hospital chart of Mr. Karr. I also, of course,
21 reviewed the office notes of Dr. Schnell prior to
22 Mr. Karr's admission to the hospital. In addition
23 to that I reviewed the depositions of various
24 experts that have been involved in the case
25 preceeding along these lines.

1 Q. Have you also had occasion to look at the
2 report of a doctor from Pennsylvania, who is on the
3 other side of this case, a Dr. Singer, and his
4 deposition?

5 A. Yes, I have.

6 Q. Doctor, would you mind telling the jury
7 briefly about the patient, Mr. Karr, and his
8 conditions at the time he presented for surgery?

9 A. Mr. Scott, Mr. Karr presented for surgery in
10 the Spring of 1988 at the age of 60. He had had an
11 injury to his back several years prior to that
12 time. The disability from that injury continued to
13 progress despite nonsurgical methods of treating
14 his back injury.

15 In that setting he also had known
16 diabetes and hypertension, both of which dated back
17 more than 10 years.

18 He had also had operations on both
19 carotid arteries, the arteries going up the neck to
20 brain. These had been done six and seven years
21 prior to the event of the Spring of 1988.

22 In conjunction with the carotid
23 artery surgery he had a heart catheterization which
24 showed involvement of one of three coronary
25 arteries. So that Mr. Karr had multiple problems

1 in his medical history leading up to his admission
2 to Deaconess Hospital in May of 1988.

3 He also was taking like eight
4 different medications to control the various
5 problems of hypertension and diabetes, as well, of
6 course, as medication to relieve the chronic pain
7 he was experiencing from his back injury.

8 Q. Doctor, as I indicated to you, I requested
9 you to take a look at this case, give opinions as
10 to the care rendered by Dr. Schnell. You're aware
11 of course that there are two doctors involved in
12 this case. Dr. Tank and Dr. Schnell.

13 Would you tell the jury how Dr.
14 Schnell is involved in this case. ✓

15 A. Dr. Schnell was the treating physician
16 treating Mr. Karr. He treated him for the
17 hypertension and diabetes I just mentioned before.
18 In fact, he was involved in the referral process to
19 Dr. Tank, who is a surgeon who was going to do the
20 surgical procedure, try to relieve the chronic back
21 pain Mr. Karr was experiencing.

22 Dr. Schnell was involved in the
23 preoperative evaluation as well as the medical
24 aspects of the postoperative care for Mr. Karr.

25 Q. Dr. Singer in this case, that again is the

1 expert from the other side, testified, is from
2 Pennsylvania, has testified that in his opinion the
3 patient, Mr. Karr, should have been given blood at
4 some point in time following the patient's
5 surgery. I want to ask you whether the patient's
6 blood level had anything to do with his death. But
7 before I get to that point, I want to ask you
8 preliminarily what was Dr. Schnell's involvement in
9 the management of the patient?

10 A. Well Dr. Schnell, of course, was involved in
11 the medical aspects of Mr. Karr's situation
12 postoperatively. That would not place a primary
13 responsibility on him to decide if or when the
14 patient should receive a transfusion. That was
15 more under the control of the treating surgeon,
16 rather than the treating internist.

17 The internist of course would be
18 involved in the management of his diabetes, which
19 of course would be somewhat difficult in the
20 immediate postoperative state. Involved in the
21 control of his blood pressure. He would be
22 watching for any signs of congestion in the lungs,
23 things of that type. His primary responsibilities
24 would certainly not be that of transfusion.

25 Q. Doctor, I want to go to the patient's

1 postoperative care and the allegation in this case
2 that a transfusion should have been given to the
3 patient.

4 Do you have an opinion, Doctor, as
5 to whether this patient died because he did not
6 have sufficient blood cells?

7 A. I have an opinion.

8 MR. ILER: Note my
9 objection.

10 Q. Do you have an opinion to a reasonable degree
11 of medical certainty?

12 A. I do.

13 Q. Will you tell the jury what your opinion is,
14 please?

15 A. My opinion is that his relative anemia in the
16 postoperative state had absolutely nothing to do
17 with his sudden cardiac death.

18 Q. Doctor, you mentioned that his anemia had
19 nothing to do with his death. When you say the
20 patient's anemia, how does the word anemia relate
21 to blood loss in this case?

22 A. As with anyone undergoing surgery, of course
23 there was a certain amount of blood loss that
24 occurred. The question comes up whether that
25 should have been replaced or not.

1 His anemia was expected given the
2 amount of blood loss that was measured at the
3 operation, in the immediate postoperative period.

4 Q. Dr. Singer testified in his deposition that
5 the patient lost approximately 50 percent of his
6 blood volume. What is your opinion as to the blood
7 loss in this case, Doctor?

8 A. I don't believe I can agree with Dr. Singer.
9 I calculated it something around 15 percent rather
10 than 50 percent.

11 Q. Doctor, have you prepared a paper which you
12 have beside you which graphically demonstrates to
13 the jury the patient's blood loss, fluid
14 replacement?

15 MR. ILER: I would like to
16 see that first if we can go off the record for a
17 minute.

18 MR. SCOTT: Sure.

19 - - - - -

20 (Brief recess had.)

21 - - - - -

22 MR. ILER: Let the record
23 reflect we are making an objection to the opinions
24 offered by Dr. Watts. That opinion has not been
25 offered before in deposition or his medical

1 report. Pursuant to Rule 21.1 of the Cuyahoga
2 County Rules of Procedure which have been enacted
3 here, we make an objection to the offering of this
4 opinion at this time as we have not had an
5 opportunity to cross-examine Dr. Watts on these
6 points.

7 Number 2, that these opinions have
8 not been offered prior either in the deposition or
9 as a medical report. With our objection so noted,
10 Mr. Bonezzi has any, we can proceed over our
11 objection.

12 MR. BONEZZI: Go ahead.

13 BY MR. SCOTT:

14 Q. Doctor, before the interruption you had taken
15 a piece of paper which you have prepared and I ask
16 you what is meant to be shown to the jury with this
17 document which you have?

18 A. Well, Mr. Scott, what I'm attempting to show
19 here, I will go through it step by step because
20 it's somewhat complex.

21 The real point to the figures that
22 are on the sheet of paper and the diagram and so on
23 is that there is -- we all start out with a certain
24 number of red blood cells.

25 In Mr. Karr's case of course he had

1 some blood loss associated with the operation and
2 immediate postoperative period. As we all know, he
3 was not given a transfusion. That was one of the
4 points of the plaintiff's expert. Dr. Singer felt
5 that the patient should have received a
6 transfusion.

7 What I'm attempting to show here in
8 a graphic form, with the various numbers, is that
9 while he was not transfused, we all agree upon that
10 evidence, that he was given non-blood fluids so
11 that his circulating blood volume was the same as
12 it was before the operation. He didn't have as
13 many red blood cells in circulating volume because
14 he hadn't received any transfusion. He had the
15 same blood volume.

16 Let's start with Mr. Karr who
17 weighed 84 kilograms. We know on the basis of
18 research about seven percent of our body weight is
19 in the form of extra cellular fluid. 84 kilograms
20 would translate into 5880 ml or cc's as they are
21 called.

22 He had a hematocrit of 40. That
23 meant that 40 percent of the 5800 figure was in the
24 form of red cells. He had an absolute volume
25 of 2350 red blood cells.

1 Then he goes to the operation. He
2 loses around 900 cc's or ml of blood.

3 Q. May I ask you, Doctor, before you go on,
4 where you obtained the number of 900 blood cells
5 that -- or 900 blood volume the patient lost?

6 A. The operating surgeon, Dr. Tank, estimated --
7 this is in his operative note, in the last
8 paragraph of his dictated noted after the operation
9 that he estimated the blood loss at 650 cc's.

10 We also have a note from the
11 recovery room area estimating another 150 cc's. We
12 are up to 800 there. I think it would be safe to
13 say there is probably about a 10 percent error one
14 way of another so that we are at at least 800 by
15 actual measurement. There is blood loss that may
16 not be measured that would be taken up by the
17 operative drapes. Also in the patient himself. In
18 the operated field. So, a figure that could be
19 estimated, this is everything I said up until now
20 has been measured, the estimated additional 100
21 cc's brings us up to 900. Admittedly 800 of
22 the 900 was measured. My estimate is another 100,
23 making it 900.

24 Q. Very good, Doctor, please proceed.

25 A. The 900 cc's of blood, 40 percent of that,

1 the hematocrit of 40 was actually red blood cells.

2 We then had 2350 cc's of red blood
3 cells. We take away 40 percent of the 900, which
4 is 360. So now we are down in terms of red blood
5 cells to just below 2,000 cc's of red blood cells.
6 We pour out that much blood from our beaker
7 simulating the body.

8 MR. ILER: Excuse me,
9 Dr. Watts, I want to make an objection to the use
10 of this diagram and to the color. You can continue
11 as long as I make my objection.

12 Q. Go ahead, continue, Doctor.

13 A. What is going on is that of course we have an
14 adjusted circulating volume of 4980, which is
15 the 5880 we had up here minus the 900 cc's of
16 either measured or estimated blood loss.

17 Q. Doctor, before you proceed.

18 A. Yes.

19 Q. Is that blood loss that occurred during
20 surgery an unusual amount of blood loss for that
21 surgery?

22 A. No. It causes a certain amount of blood loss
23 because you are cutting through muscles and working
24 deep in the back and so on. I think Dr. Tank was
25 using his 650 estimated blood loss based on his

1 operative experiences over many years.

2 MR. ILER: Note my
3 objection. I ask that the answer be stricken as to
4 what he thought Dr. Tank thought.

5 Q. Is your answer based on what the operative
6 note of Dr. Tank states, Doctor?

7 A. It is.

8 Q. Before you go on as well, is that blood loss
9 which you noted as coming from the surgery itself
10 and the follow-up, does that entire blood loss
11 require any transfusion of blood for this patient?

12 MR. ILER: Note my
13 objection to the question and to his answer.

14 Q. You may answer, Doctor.

15 A. No, it does not.

16 Q. Go ahead, Doctor, please proceed with your
17 schematic.

18 A. Up to this point it's been all out, no in.
19 He's gone to the operating room, as a result of the
20 operation he's lost around 900 cc's of blood.

21 He comes out of the operating room,
22 the immediate postoperative period with a reduction
23 in the number of red blood cells to just
24 below 2,000 ml's of red blood cells.

25 In the next two days he's given

1 intravenous fluids and also begins to take things
2 orally. In the intake/output record from the
3 hospital we have a total intake of 7,670 cc's.

4 Q. Doctor, let me interrupt you again. I am
5 sorry to do this. You obviously are much more
6 familiar than we lay people. When you say the
7 intake, what precisely is meant by intake, what
8 intake are you talking about?

9 A. We are talking intravenous and oral. During
10 the first several days he was getting 100 cc's per
11 hour intravenously plus whatever he consumed
12 orally. He was able to consume food and fluids
13 orally in the postoperative period.

14 Q. Please proceed, Doctor.

15 A. Mainly intravenous. Also oral intake he
16 had 7600 cc's intake. During that same several day
17 period there was a measured output of 3080 cc's
18 this was mainly urinary output.

19 That would give him a positive
20 balance of 4590 cc's of intake over output.

21 During the same period of time we
22 had something which we can't measure called
23 insensible fluid loss. This insensible fluid loss
24 through the skin, moisture we lose as we breathe.
25 That usually runs somewhere between 750

1 and 1000 cc's a day. I have rounded that figured
2 to be 1000 cc's a day or for a two-day period 2,000
3 cc's. We have the excess of intake over output
4 of 4590.

5 We have taken away from that
6 the 2,000 of insensible fluid loss. That still
7 gives us a positive fluid balance of 2590 cc's. We
8 have gone from the preoperative state through the
9 operation with the measured 900 cc blood loss and
10 with the postoperative intravenous fluid intake and
11 urinary loss and factored in the insensible fluid
12 loss, we still have a positive fluid balance
13 of 2,590 cc's. So, we have the same amount of red
14 blood cells after the operation that we had before
15 it's suspended in a larger volume. We refilled the
16 beaker, as it were.

17 We have the 1992, the just
18 under 2,000 cc's for the red blood cells, but we
19 have now reconstituted the fluid volume of the body
20 up to 7570. 1992 divided by 7570 gives us a
21 hematocrit of 26. This happens to be very close to
22 the hematocrit the laboratory measured in the last
23 test done before Mr. Karr died.

24 The whole point of this exercise
25 which I prefaced by pointing out we are going to be

1 talking about the loss of actual blood cells and
2 replacement of fluid volume with noncontaining
3 blood, it turns out he has nearly exactly what the
4 laboratory measured, based on these figures taken
5 from the chart of Mr. Karr at that time.

6 So he was able to get along with a
7 fewer number of red blood cells, so long as the
8 fluid volume was sustained by the intravenous
9 fluids alluded to in this portion of the diagram.

10 Q. By the way, Doctor, you have 26 hematocrit.
11 We have also been speaking to the jury about
12 hemoglobin. What would that translate to as far as
13 hemoglobin approximately?

14 A. Around eight grams of hemoglobin.

15 MR. ILER: May I make an
16 objection, Mr. Scott, that the testimony of the
17 physician in this case be stricken from the record.

18 Q. Doctor, I ask you this based on your
19 knowledge and expertise, training and experience,
20 was there any reason to transfuse the patient
21 assuming these values of hemoglobin at eight plus
22 and hematocrit at 26 as you indicated?

23 A. No, no indication for a transfusion in
24 Mr. Karr.

25 MR. ILER: Note my

1 objection. Ask that his answer be stricken.

2 Q. Are all the opinions you are giving here,
3 Doctor, based upon a reasonable degree of medical
4 certainty and based upon your expertise and
5 training and experience?

6 A. They are.

7 Q. Doctor, we have talked about the blood loss
8 at the time of surgery, we talked about the
9 replacement of volume with I.V. fluids.

10 Doctor, I ask you whether you have
11 any opinion as to cause of death of the patient?

12 A. I do.

13 MR. ILER: Note my
14 objection for the record.

15 Q. Would you tell the jury your opinions in that
16 regard, please?

17 A. Mr. Karr died with and because of his
18 preexisting heart disease. At autopsy he had
19 triple vessel coronary artery disease in the large
20 heart. He died the kind of death which
21 unfortunately is the mechanism by which 60 percent
22 of the people in this country die of heart disease
23 each year. In other words, sudden cardiac death
24 occurring without evidence of the event going to
25 occur until the time of the occurrence itself.

1 Q. Doctor, I also want to ask you about the life
2 expectancy of this patient, Mr. Karr, since
3 Dr. Singer has also testified in that connection.
4 Dr. Singer testified, if I recall correctly, that
5 the patient would likely have lived to his
6 late 70s.

7 Have you reviewed the records and
8 have you formed an opinion in that connection as
9 well?

10 A. I have.

11 Q. Would you tell the jury your opinion as to
12 the patient's life expectancy?

13 MR. ILER: Note my
14 objection. You can answer, Doctor.

15 A. I believe Mr. Karr -- this is of course based
16 upon all the information we know about him,
17 including the autopsy data -- that Mr. Karr had
18 a 50 percent chance of living approximately six
19 more years.

20 Q. Will you tell the jury why you have that
21 opinion that Mr. Karr would have about a 50 percent
22 chance of living six more years?

23 MR. ILER: Note my
24 objection.

25 Q. This is based on a variety of studies which

1 have been done, mainly relevant to the selection of
2 patients for coronary artery surgery. We know, of
3 course, having all three coronary arteries involved
4 reduces life expectancy more than having two
5 coronary or one coronary artery involved.

6 We know age itself reduces ones
7 life expectancy. We know that diabetes and
8 hypertension reduces ones life expectancy.
9 Involvement of kidneys and so forth also have an
10 effect in reduction in ones life expectancy.

11 In looking at Mr. Karr, based upon
12 the studies reported on large populations from
13 different parts of this country in the last 10
14 to 15 years relevant to the survival of a coronary
15 artery surgery or the lack of coronary artery
16 surgery, I think it's safe to say we are expecting
17 about an eight percent mortality for a man like
18 Mr. Karr, at his age, with his degree of coronary
19 involvement. Eight percent a year would therefore
20 translate out to a 50 percent likelihood of being
21 alive in about six years.

22 MR. ILER: Note my
23 objection. I ask the answer be stricken for the
24 reasons the opinions were not given in deposition
25 or his medical record. We ask that the court rule

1 that the life expectancy testimony be stricken from
2 the record.

3 Q. Doctor, you also mentioned as one of the
4 reasons for death of Mr. Karr his arteriosclerotic
5 disease. Was that disease suspected or reasonably
6 suspected at the time of the patient's death?

7 A. Well --

8 Q. Can you tell the jury, if I might interrupt
9 the extent of that disease when found on autopsy?

10 A. Well, it was known that he had arterio
11 disease earlier because as I mentioned in the first
12 part of the testimony he had both carotid arteries
13 operated upon in 1981 and 1982. He had known
14 vascular disease. He had had a heart
15 catheterization that showed some involvement of one
16 of the coronary arteries.

17 At autopsy, of course, it showed
18 that he had considerable involvement of all three
19 coronary arteries. They progressed in an
20 asymptomatic fashion. He had not had any symptoms
21 relevant to that known in the preoperative state.

22 Q. Doctor, the same Dr. Singer testified that
23 there must have been a lack of perfusion of the
24 organs and tissues of the patient. Was there, in
25 your opinion, any difference between the perfusion

1 before surgery and perfusion after the surgery?
2 You might tell the jury before you answer what is
3 meant by tissue perfusion.

4 A. Tissue perfusion is what the circulation is
5 all about. The duty of the circulation is to
6 supply oxygen to all the tissues, which it does by
7 way of carrying red blood cells, which in
8 themselves are carrying oxygen from the lungs to
9 the various parts of the body. The various parts
10 of the body obviously depend upon that supply of
11 energy in the form of oxygen. With an impairment
12 of the energy supplied, obviously the organs cannot
13 function as well.

14 So the whole purpose of it, to
15 evaluate the patient from the standpoint of
16 adequate perfusion, would be to look at him in his
17 entirety. Also individually, mental function,
18 function of the heart, lungs, kidneys, liver and
19 the other functioning organs of the body.

20 Q. Were there any signs in this case, Doctor,
21 that the organs of the patient were not being
22 perfused sufficiently?

23 MR. ILER: Note my
24 objection.

25 A. No.

✓
over
agreed
draw

1 Q. Doctor, as a matter of the care rendered by
2 Dr. Schnell, I ask you to tell the jury whether you
3 have an opinion to a reasonable degree of medical
4 certainty whether the care rendered by Dr. Schnell
5 met accepted medical standards?

6 A. I have an opinion.

7 Q. Your opinion, sir?

8 A. I believe Dr. Schnell's care of Mr. Karr
9 certainly met the standard of care for a patient in
10 this situation. I could find no fault with the
11 care that Dr. Schnell rendered to Mr. Karr.

12 MR. SCOTT: I thank you
13 very much, Doctor. The other attorneys may have
14 some questions for you.

15 MISS ILER: We'll take a
16 break now.

17 - - - - -
18 (Recess had.)

19 - - - - -
20 CROSS-EXAMINATION

21 BY MR. ILER:

22 Q. Dr. Watts, my name is Don Iler. I represent
23 the Karr family. I have some questions for you.
24 Let's start out with the idea that you had known
25 Dr. Schnell for 45 years, am I correct?

1 A. Yes, at least 45 years.

2 Q. I understand you met him first in medical
3 school?

4 A. Yes, he was a year behind me.

5 Q. Your friendship continued through your
6 practice?

7 MR. SCOTT: Objection.

8 A. Well, I wouldn't say we were close friends.
9 He worked at a hospital where I never go. Likewise
10 he never comes to Fairview. I think that there
11 were quite a few years we literally did not see
12 each other.

13 Q. There were quite a few years you did see each
14 other?

15 A. Probably once a year in medical meetings. We
16 have perhaps two or three or four mutual patients.
17 Our relationship has been very distant.

18 Q. Let's take the medical meetings first.
19 During the times you went to medical meetings you
20 talked with him on a friendly basis, had you not?

21 A. Yes.

22 Q. You exchanged pleasantries about the practice
23 and so forth, am I correct?

24 A. You are correct.

25 Q. Has he ever referred a patient to you?

1 A. Only in the way of saying someone was moving
2 from his service area to our service area. The
3 patient had heart disease, he would give them my
4 name.

5 Q. Is the answer yes?

6 A. In that context the answer is yes.

7 Q. There was a business basis -- listen to my
8 question first, Doctor -- there was a business
9 basis between yourself and Dr. Schnell, am I
10 correct?

11 A. I don't know what you mean by business
12 basis. I was trying to define my answer there for
13 your question a little earlier, when you said
14 referral. Usually when we think of a referral it's
15 a patient being referred to the doctor, remaining
16 under the care of the doctor, I'm coming in as a
17 consultant. That wasn't the case with
18 Dr. Schnell's patients. They were literally moving
19 from his area of the city to my area of the city.
20 I was continuing the care he already established.
21 That is not what we usually speak of as being a
22 referral.

23 Q. Have you ever served on any medical
24 committees with him?

25 A. No.

1 Q. Some of your patients have been treated by
2 Dr. Tank however, am I correct?

3 A. I can only recall one.

4 Q. Just one time in your years of practice has
5 Dr. Tank referred a patient to you, is that your
6 testimony?

7 A. No, I referred a patient to Dr. Tank. I
8 don't recall his ever referring a patient to me.

9 Q. You also know Dr. Suppes?

10 A. I know who he is, yes.

11 Q. How do you know Dr. Suppes?

12 A. I think we have been on perhaps one committee
13 at the Academy of Medicine level.

14 Q. What level would that be, what committee
15 would that be, do you remember?

16 A. I was on the trauma and emergency care
17 committee for a number of years back 10 or more
18 years ago. I believe Dr. Suppes was on the
19 committee for one year. He had been the president
20 of the academy at about that time. He was on a
21 committee from that standpoint.

22 Q. We have established, have we not, that you
23 knew Dr. Schnell for approximately 45 years, true?

24 A. That is true.

25 Q. You know Dr. Tank, you have known the other

1 defendant in this case, Dr. Tank, am I correct?

2 A. I'm not sure I ever met Dr. Tank. I talked
3 to him on the phone on one or perhaps two occasions
4 concerning one patient that I referred to him.

5 Q. The question was do you know him?

6 A. I know who he is.

7 Q. You also know one of the experts for
8 Dr. Schnell, he has yourself and then Dr. Suppes
9 and you also know Dr. Suppes, am I correct?

10 A. Yes, I do.

11 Q. You have reviewed medical cases, medical
12 negligence cases for Mr. Scott before, have you
13 not?

14 A. I have.

15 Q. The review of those cases, you reviewed those
16 cases on behalf of physicians, am I correct?

17 A. You are correct.

18 Q. You have not reviewed those cases for
19 Mr. Scott looking at it from the care, the effort
20 to testify on behalf of the patient, am I correct?

21 MR. SCOTT: Objection.

22 A. That is correct.

23 Q. How many cases would you say that -- doctor's
24 conduct cases if you will -- have you reviewed for
25 Mr. Scott?

1 A. I would think it's less than five. I
2 wouldn't be able to quantify it beyond that. It's
3 hasn't been a lot of cases.

4 Q. Have you reviewed physician's treatment of
5 patients for any other attorneys in town?

6 A. Yes.

7 Q. Who would that be?

8 A. I reviewed cases for Arter and Hadden,
9 reviewed cases for Jacobson, Maynard, Tuschman and
10 Kalur. I can't offhand think of any -- well, I
11 reviewed some cases for Nurenberg, Plevin in the
12 early 1980s.

13 Q. Let's turn to the firm of Arter and Hadden.
14 They defend doctors against malpractice cases,
15 don't they?

16 A. The suits I reviewed were being defended,
17 yes.

18 Q. How many cases have you reviewed for the firm
19 of Arter and Hadden on behalf of physicians accused
20 of medical negligence?

21 A. I think all together over the last 10 years
22 it probably adds up to no more than 10.

23 Q. You also reviewed cases for the law firm
24 which is defending Dr. Tank, that would be
25 Jacobson, Maynard, Tuschman and Kalur, am I

1 correct?

2 A. You are correct.

3 Q. How many cases have you reviewed -- these are
4 cases where a doctor has been accused of below
5 standard care for Jacobson, Maynard, how many
6 cases, Doctor?

7 A. Probably half a dozen, I would guess.

8 Q. Do you sit on any committees of the Jacobson,
9 Maynard firm?

10 MR. BONEZZI: Objection.

11 A. No, I haven't been to a peer review there for
12 a number of years.

13 Q. Was there a time you did?

14 MR. BONEZZI: Objection.

15 A. Yes.

16 Q. Are you an insured of the Physician's
17 Insurance Exchange Insurance Company?

18 MR. BONEZZI: Objection, move
19 to strike.

20 MR. SCOTT: Same motion.

21 A. I am.

22 Q. How long have you been insured by Physician's
23 Insurance Exchange Company?

24 MR. BONEZZI: Objection.

25 MR. SCOTT: Objection.

1 A. Since 1975.

2 Q. Have you served on any boards of the
3 Physician's Insurance Exchange Company?

4 MR. BONEZZI: Objection.

5 A. No, I have not.

6 MR. SCOTT: Same
7 objection.

8 Q. Doctor, before we get into some of your
9 testimony, I want to return you to your diagram.
10 On the bottom of the diagram there is a note
11 there. Where did this diagram come from?

12 A. Mr. Iler, the diagram came from the work of
13 my daughter, who is the person who runs Med Art.
14 She does medical illustration for the legal and
15 medical profession. What is being referred to,
16 what you pointed to is an asterisk. It says,
17 "Advances in Surgery, Volume 1, page 69, 1965."
18 That is referencing the fact that seven percent of
19 our body weight is in the form of circulating blood
20 volume.

21 Q. My question is, is this diagram copied from
22 that?

23 A. I am sorry, the diagram was made by her. The
24 figure seven percent was derived from the
25 reference.

1 Q. I didn't ask you about the seven percent.
2 I'm talking about the diagram in general.

3 A. No, the diagram was made for this particular
4 case.

5 Q. Made by your daughter?

6 A. It was.

7 Q. Is her company known as Advances in Surgery?

8 A. No, her company is on the other corner of the
9 bottom, Med Art. In the lower left-hand corner.

10 Q. I want to talk to you about this diagram,
11 Doctor. First I want to ask you when you remarked
12 to this jury earlier you said that fluid was
13 replaced after Raymond Karr's surgery, am I
14 correct?

15 A. Yes.

16 Q. So we are perfectly clear. That fluid that
17 was replaced was not blood?

18 A. That is correct.

19 Q. The fluid replaced did not contain any
20 hemoglobin?

21 A. No, it didn't.

22 Q. Hemoglobin is the agent of the blood which
23 carries oxygen, true?

24 A. So I testified.

25 Q. You testified to us earlier without oxygen

1 tissue will die, correct?

2 A. What I actually said is it wouldn't function
3 as well. In the long run it might die, yes.

4 Q. As a cardiologist if the heart is not
5 receiving sufficient oxygen by enough blood
6 carrying of the heart you are going to have a
7 problem with your heart function, are you not?

8 A. It could be.

9 Q. Isn't it true in many cases where you have
10 arteries which are clogged up for example, blood
11 cannot reach the heart, ergo not enough blood
12 reaches the heart, you are going to have a heart
13 attack or problem?

14 A. I think that is a good generalization of it,
15 yes.

16 Q. In your diagram, I want to ask you about it
17 if you can hold it up for us, in this diagram you
18 have the red, all the red is in the same color, am
19 I correct? It's all red, isn't it, in the first
20 glass, the second glass, the third glass we are
21 seeing red, am I correct?

22 A. We are.

23 Q. What you are really talking about is fluid
24 which is put in which is not red, am I correct?

25 A. Correct.

1 Q. These colors are not accurate. They should
2 be diluted red, am I correct?

3 A. Down here it would be more diluted. Here and
4 here of course would be the same color. Here we
5 are starting in the preoperative state. Here is
6 pouring out 900 cc's of blood. Here is the -- this
7 is the reason for the blue arrows coming in because
8 the blue obviously is not containing blood. To be
9 totally accurate artistically it should be a more
10 pale red because the hematocrit is dropped from
11 the 40 percent of the circulating volume to 26
12 percent of the circulating volume.

13 Q. This is the critical time we are talking
14 about, are we not, in the third beaker?

15 A. We are.

16 Q. It's clear this color is a misrepresentation
17 of the color of the blood at this level?

18 MR. SCOTT: Objection.

19 Q. Am I correct or not?

20 A. If you went by the color alone it should be a
21 more pale red, yes.

22 Q. You are not intending to tell the jury by the
23 use of this diagram the color in the third beaker
24 should be and was the same as the color in the
25 first beaker before Ray Karr's surgery; is that

1 correct?

2 A. That's correct.

3 Q. The numbers used in this diagram, I want to
4 talk to you about those if you would, please,
5 Doctor. The numbers you use in your diagram, the
6 blood volume you indicated in the diagram is seven
7 percent, am I correct?

8 A. That is correct.

9 Q. In your report what figure did you use or in
10 your deposition?

11 A. I used five percent.

12 Q. How come your daughter didn't use five
13 percent here?

14 A. I looked it up since that time. In medical
15 school we were taught it was five percent. Not
16 until 1962, 1965 that the more recent isotope
17 techniques made it possible to do a more accurate
18 calculation.

19 Q. You changed your mind from the deposition?

20 A. I did.

21 Q. In your deposition, Doctor, once again let me
22 go back to your chart if you would, in the second
23 beaker you talk about the blood lost during
24 surgery. I think that is what you are depicting,
25 am I not right?

1 A. Right.

2 Q. You indicated here there was 900 milliliters,
3 can we say cc's?

4 A. We can.

5 Q. In your deposition, however, you said there
6 was 880, am I correct?

7 A. Yes.

8 Q. Once again you changed your mind?

9 A. Yes.

10 Q. The last diagram, what you have here we
11 talked about circulating blood volume, am I
12 correct?

13 A. Yes, you are.

14 Q. Where is your figure for that, 49 --

15 A. No. That is the balance of the fluid intake
16 over output. 7570 was our denominator on
17 calculations.

18 Q. What from the diagram did you calculate now
19 to have the circulating blood volume, how much was
20 that?

21 A. 7570.

22 Q. In your deposition you used 4300, did you
23 not?

24 A. Well --

25 Q. Just a minute, Doctor. In your deposition

1 that was given to us under oath, you see Doctor,
2 on July 6, 1992, you used 4300 cc's, am I correct?

3 A. Yes.

4 Q. You changed your opinion again, am I correct?

5 A. Yes, you are.

6 Q. Thank you. Am I correct in your statement to
7 this jury that you said that Raymond Karr had the
8 same amount of red blood cells after his surgery
9 that he had before his surgery?

10 A. Of course not.

11 Q. You didn't mean to tell the jury that?

12 A. I didn't tell the jury that.

13 Q. In other words, after the surgery of Raymond
14 Karr he ended up with less red blood cells which
15 carry oxygen than he had before the surgery, am I
16 correct?

17 A. My diagram showed that very clearly,
18 Mr. Iler.

19 Q. Is the answer yes?

20 A. The answer is yes.

21 Q. How many blood cells less did he have after
22 the surgery than he had before?

23 A. Referring back to what we have already shown
24 the jury. We started out with 2352 for red blood
25 cells. He lost the 900 cc's of blood. That gave

1 him 1992 for the number of cc's of red blood cells.

2 Q. How many red blood cells did you estimate he
3 had after the surgery than before?

4 A. It would be 2352, you take away 1992.

5 Q. That would be how much, sir?

6 A. That would be 460. I am sorry, 360.

7 Q. Was that ever replaced?

8 A. No.

9 Q. Is it your testimony that it was Dr. Tank who
10 was supposed to give Raymond a blood transfusion if
11 one was necessary?

12 A. That was my testimony.

13 Q. Don't I understand it was Dr. Schnell and
14 Dr. Tank who both were taking care of Raymond?

15 A. That was my understanding.

16 Q. Didn't they both share the responsibility of
17 seeing that Raymond was appropriately taken care
18 of?

19 A. Of course.

20 Q. Wouldn't it be the responsibility of
21 Dr. Schnell, if he believed that there had to be
22 some blood replacement for Raymond, to call
23 Dr. Schnell and Dr. Tank and discuss that with
24 them, don't you think so?

25 A. Traditionally in the practice of medicine

1 Mr. Iler, the surgeon is in charge of the question
2 of transfusion. If Dr. Schnell had felt that
3 Mr. Karr was being impaired by the reduction in his
4 blood hematocrit, he could call Dr. Tank and raise
5 the question of transfusion and as a matter of fact
6 he did ask the nurses to notify Dr. Tank of the
7 drop in the hematocrit on the second postoperative
8 day. Dr. Tank responded by ordering some
9 injections of iron to help build up the blood
10 count.

11 The primary responsibility,
12 Mr. Iler, in the care of patients postoperatively,
13 the surgeon is really the person who primarily is
14 assigned the duty in regard to transfusion.

15 Q. Let me ask you this, Doctor, hypothetically
16 speaking, if the physician -- Dr. Schnell is Board
17 certified is he?

18 A. I don't know whether he is or not. I think
19 he is.

20 Q. He's an experienced internist, is he not?

21 A. Definitely.

22 Q. You are an internist?

23 A. I am.

24 Q. If the internist thinks the treating
25 physician is making a mistake with a patient, don't

1 you think it is the responsibility of that
2 physician to say to the treating physician, "Wait a
3 minute, I think you are making a mistake, I think
4 Raymond Karr should have some blood," isn't that
5 reasonable?

6 MR. BONEZZI: Objection.

7 MR. SCOTT: Objection.

8 A. If he felt that to be true that would be his
9 obligation.

10 Q. The fact that one is a treating and one is a
11 referring should have no significance insofar as
12 the patient's health is concerned, am I correct in
13 that?

14 A. We are all working in the same objective of
15 helping the patient.

16 Q. Then why are you blaming Dr. Tank?

17 MR. SCOTT: Objection.

18 A. It's not a matter of blame. The practice in
19 the postoperative period is, transfusion in
20 particular, fluids in general are more under the
21 control and obligation of the surgeon than they are
22 the internist. That happens to be the way things
23 have evolved over the course of the practice of
24 medicine.

25 Q. Let me put it this way: If there was evidence

1 before Dr. Schnell that Raymond was showing signs
2 of not getting enough oxygen to his system, he
3 should do something about that, am I correct?

4 A. You are correct.

5 Q. Let's, if we can, Doctor, turn to the
6 preoperative care, the care that Raymond received
7 before his surgery; can we do that, sir?

8 A. We can.

9 Q. I think that there is an agreement from the
10 record that it was Dr. Schnell who was supposed to
11 clear Mr. Karr for the surgery, am I correct?

12 A. You are correct.

13 Q. With the responsibility of clearing a patient
14 for care such as Mr. Karr --

15 MR. SCOTT: Objection for
16 the record since these questions are not relevant
17 to the case because plaintiff's expert, Dr. Singer,
18 has addressed only one alleged departure from the
19 accepted standards, that being postoperatively in
20 connection with the question of whether to
21 transfuse the patient.

22 Q. We'll continue and the judge can rule. What
23 does it mean to clear Raymond Karr for his surgery?

24 A. This means to evaluate the patient for any
25 possible risk associated with the surgery and the

1 postoperative period.

2 This is a global assessment. It
3 has to do with the patient's blood pressure. It
4 has to do with the diabetes. Has to do with all
5 the various medications and to make sure that he
6 was not going into surgery in an unprepared or
7 poorly prepared condition which could be improved
8 upon by doing various things before the operation.

9 Q. You will agree that a patient has the right
10 to expect his physicians are going to anticipate
11 risks he might have or she might have during
12 surgery, am I right?

13 MR. SCOTT: Objection.

14 A. You are right.

15 Q. Let's turn to the first risk, for example, of
16 diabetes. Is there a risk of a patient going to
17 surgery with diabetes, as opposed to a patient who
18 does not have diabetes going into surgery?

19 MR. SCOTT: Objection.

20 A. Yes.

21 Q. What is that risk?

22 A. The operative procedure will always put a
23 greater strain on the body in general, therefore
24 increase the requirement for insulin in the
25 postoperative period. The patient is at risk of

1 having gone from the controlled diabetes to
2 uncontrolled diabetes.

3 Q. That puts a strain on the cardiac system, am
4 I correct?

5 MR. SCOTT: Objection.

6 A. It may.

7 Q. In what way?

8 A. It would increase the heart rate if he were
9 to develop acidosis or something of that sort. The
10 rise in blood sugar in itself would not put an
11 extra strain on the heart. Only the development of
12 acidosis. That would put an extra strain on the
13 heart.

14 Q. Secondly, we know that Raymond had
15 hypertension, am I correct?

16 A. You are correct.

17 Q. What is that for us?

18 A. High blood pressure.

19 Q. Is that a risk a patient would have at
20 surgery as opposed to a patient who did not have
21 hypertension?

22 MR. SCOTT: Objection.

23 A. The person with hypertension may well have an
24 enlarged heart, which it turns out on autopsy
25 Mr. Karr did have. That would be the risk. Of

1 course the secondary risk of that would be that
2 enlarged hearts are more likely to go into heart
3 failure.

4 Q. Let's turn away from the enlarged heart for
5 just a moment, stick with plain old hypertension.
6 Why is hypertension a risk for a patient going into
7 surgery such as Raymond?

8 MR. SCOTT: Objection.

9 Q. Why is there risk?

10 A. There isn't a great deal of risk if the
11 person has controlled hypertension, doesn't have
12 what we call end organ involvement. Most
13 importantly the heart, of course, if the heart be
14 of normal size, the hypertension itself is not a
15 particular risk.

16 Q. Would you say then a patient such as Raymond
17 that is going into surgery, this laminectomy --
18 that is quite extensive surgery he went through;
19 isn't that correct?

20 MR. SCOTT: Objection.

21 A. Yes.

22 Q. Don't you think that in the clearing process
23 Mr. Schnell should have said, "Wait a minute, I
24 have a patient who has hypertension, that can be a
25 risk of surgery. I want to find out if he has an

1 enlarged heart. Let us do an echocardiogram";
2 isn't that reasonable?

3 MR. SCOTT: Objection.

4 A. It may be reasonable but it is not routine.
5 He did have the things that are routine, the chest
6 x-ray and the electrocardiogram.

7 Q. Did the chest x-ray show an enlarged heart?

8 A. No.

9 Q. It didn't. So here Raymond was cleared by
10 Dr. Schnell for this surgery with known
11 hypertension, right?

12 A. Right.

13 Q. With an x-ray but without any evidence as to
14 whether or not Raymond's heart was enlarged or not?

15 MR. SCOTT: Objection.

16 A. One of the best ways of detecting cardiac
17 enlargement is the electrocardiogram. The
18 electrocardiogram did not show heart enlargement,
19 nor did the chest x-ray. I think Dr. Schnell was
20 certainly on firm ground to feel that that posed no
21 additional risk for the surgery.

22 Q. You will admit, however, that hypertension in
23 Raymond was a risk, correct?

24 MR. SCOTT: Objection.

25 A. Of course.

1 Q. We have come to two risks. One is diabetes,
2 the second is hypertension. Now we come to find
3 out that Raymond in 1981 had gone to the Cleveland
4 Clinic, his heart was examined, am I correct?

5 A. You are correct.

6 Q. What did they find there?

7 A. They found single vessel coronary disease.

8 Q. What does that mean for us?

9 A. What it means is that of the three coronary
10 arteries, one of them had some narrowing.

11 Q. Dr. Schnell of course had been Raymond's
12 physician for a number of years?

13 A. Yes.

14 Q. Did you assume in your analysis of this case
15 that Dr. Schnell in fact knew about this 1981
16 Cleveland Clinic heart diagnostic test?

17 A. Let me turn to Dr. Schnell's writeup in the
18 preoperative period. I think that will answer the
19 question more factually than I can do from memory
20 alone.

21 MR. SCOTT: Off the record.

22 - - - - -

23 (Brief recess had.)

24 - - - - -

25 MR. ILER: I forgot my

1 question.

2

- - - - -

3 (Question read as follows: Did you assume
4 in your analysis of this case that Dr. Schnell in
5 fact knew about this 1981 Cleveland Clinic heart
6 diagnostic test?)

7

- - - - -

8 A. Yes, Mr. Iler, I have in front of me from the
9 Deaconess Hospital chart the consultation that
10 Dr. Schnell dictated prior to the operation and the
11 second paragraph, the first page, covers the sum of
12 the questions that you asked.

13 For instance, in the second
14 paragraph he says, "In 1981 he underwent
15 angiography for evaluation of a carotid bruit.
16 Found to have an 80 percent narrowing of the right
17 internal carotid, 95 percent narrowing of the left
18 internal carotid. At the same time he underwent
19 routine cardiac catheterization. This showed
20 minimal irregularities of the right coronary artery
21 and the left anterior descending so the coronary
22 arteries were nearly normal. In the
23 posteriolateral branch of the circumflex coronary
24 artery, the third coronary artery, there was a 40
25 to 50 percent obstruction."

1 Dr. Schnell goes on to say that,
2 "None of these lesions were thought to be
3 hemodynamically significant." He did indeed have
4 early coronary artery disease which the physician
5 at the Cleveland Clinic did not find to be of any
6 great threat to Mr. Karr at that time.

7 Q. Let me ask you this now: We know that two
8 carotid arteries that come down from the heart,
9 circulate around our brains; is that correct?

10 MR. SCOTT: Objection.

11 A. They come from the aorta. The aorta comes
12 from the heart, the aorta gives rise to the two
13 carotid arteries which go up the front of the neck
14 to the brain.

15 Q. One was 80 percent blocked, the right, am I
16 correct?

17 A. That is correct.

18 Q. The 80 percent blockage, does that mean 80
19 percent of the blood traveling up is not going up
20 there?

21 MR. SCOTT: Objection to
22 all this questioning if I might, Don, because of
23 the relevancy in view of the fact that your expert,
24 Dr. Singer, confined his criticisms purely to the
25 alleged failure to give blood postoperatively.

1 A. Mr. Iler --

2 MR. ILER: Hang on a
3 minute there. I'm trying to digest the objection.

4 Q. If I may, Doctor, I will move off the subject
5 shortly, the other carotid, 95 percent was blocked?

6 A. Correct.

7 Q. One of the three coronary arteries to
8 Raymond's heart was also not normal?

9 A. That is correct.

10 Q. That had a blockage of approximately 40 to 50
11 percent?

12 MR. SCOTT: Objection.

13 A. Yes.

14 Q. Once again in the clearing process by
15 Dr. Schnell, should Dr. Schnell have anticipated
16 that risk before subjecting Raymond to surgery?

17 MR. SCOTT: Objection.

18 A. He did anticipate that risk. He was
19 knowledgeable about the existence of the various
20 factors that all were incorporated in Mr. Karr.

21 Q. Do any of the factors -- I am sorry, Doctor,
22 also I think that there was -- we talked about
23 diabetes, hypertension. We talked about Raymond's
24 carotid arteries. We talked about one coronary
25 artery was there any other problems Raymond had

1 before surgery?

2 MR. SCOTT: Objection.

3 A. No.

4 Q. Would a combination of these four problems
5 that Raymond had lead a reasonably prudent
6 physician to believe that Raymond might need some
7 blood at surgery?

8 MR. SCOTT: Objection.

9 A. No.

10 Q. I understand from the record that -- strike
11 that. Doctor, excuse me.

12 How long do you believe that
13 Dr. Schnell had been Raymond Karr's doctor, how
14 many years would you say?

15 MR. SCOTT: Objection.

16 A. I believe it goes back to the early 1960s as
17 best I can make out from his dictated
18 consultation. It had been over a long period of
19 time. I think it's safe to say that.

20 Q. I think Dr. Schnell also prescribed
21 medication for Raymond?

22 A. He did.

23 Q. Do you recall what medication he did
24 prescribe?

25 A. Yes. He was taking medication to control his

1 blood pressure and was also on insulin.

2 Q. Insofar as blood pressure, do you recall the
3 medication he was using?

4 A. Yes, he was taking a beta blocker by the name
5 of Indural. He was taking a calcium channel
6 blocker by the name of Calan and he was taking
7 Apresoline and Capoten and Hydrochlorothiazide.
8 All dedicated to the control of blood pressure.

9 Q. He was taking five medications for blood
10 pressure?

11 A. That is correct.

12 Q. How many times a day was he taking these five
13 medications?

14 MR. SCOTT: Objection as to
15 relevancy to all these questions.

16 A. Four of the five were twice a day, one was
17 once a day.

18 Q. Raymond, also his condition of insulin had
19 progressed from a rather benign diabetic condition
20 to a rather severe one, can you agree to that?

21 MR. SCOTT: Objection.

22 A. I can. He was on oral medication from 1969
23 when he first developed recognized diabetes.
24 By 1975 he had to go off the pills onto the
25 insulin.

1 Q. This was by injection?

2 A. Yes.

3 Q. Each day?

4 A. Each day.

5 Q. How much was he getting, do you know?

6 A. At that time he came into the hospital he was
7 taking 71 units.

8 Q. How does that compare with diabetes
9 treatment; is that what you would say is average,
10 above average medication?

11 A. That is above average.

12 Q. Let's turn to Raymond's enlarged heart.

13 A. Preoperatively, before autopsy there wasn't
14 evidence he had an enlarged heart.

15 Q. Do the conditions of hypertension, diabetes,
16 create a stress on the body, more demands on the
17 body?

18 MR. SCOTT: Objection.

19 Q. Than somebody who does not have those
20 conditions?

21 A. They do.

22 Q. What kind of demands does a body make with
23 the conditions Raymond had, taking his hypertension
24 and his coronary artery 1981 results and his
25 diabetes, what does Ray's body demand with those

1 conditions?

2 MR. SCOTT: Objection.

3 A. I'm not sure I understand the question.

4 Q. Would you say his heart was placed in more
5 stress than a person without those conditions?

6 A. Uncontrolled high blood pressure of course
7 you would increase the work of the heart and cause
8 the heart to get bigger. Controlled high blood
9 pressure may actually cause a regression of an
10 enlarged heart towards a normal sized heart.

11 Q. So far as diabetes is concerned is there any
12 relationship between the diabetes Raymond had and
13 the onset of arteriosclerosis?

14 MR. SCOTT: Objection.

15 A. Yes, diabetes in general seems to speed up
16 the development of arteriosclerosis.

17 Q. How does it do that?

18 A. I don't think I know.

19 Q. Certainly before Raymond went in for surgery
20 Dr. Schnell knew of the coronary artery problems
21 Raymond had; would you agree to that?

22 A. He knew of the cardiac catheterization that I
23 just referred to a few minutes ago. He had no more
24 recent data than that.

25 Q. Would you agree that Raymond's condition just

1 prior to his surgery could be classified as Raymond
2 having some impaired circulatory problems?

3 MR. SCOTT: Objection.

4 A. I think it's safe to say he had some impaired
5 circulatory problems. He already had the carotid
6 arteries operated upon.

7 Q. On May 2nd, 1988 when Raymond was at
8 Deaconess Hospital his presurgical workup and EKG
9 was done, am I correct?

10 A. You are correct.

11 Q. From what I understand reading of the EKG
12 report, there was an indication there was an AV
13 block in Raymond's heart, am I correct? Take your
14 time and look for that, Doctor.

15 A. Yes, says first degree AV block.

16 Q. What is a first degree AV block?

17 MR. SCOTT: Objection.

18 A. Well, to answer the question I have to give
19 you a very brief lesson in the cardiac anatomy.

20 The heart is normally triggered by
21 what we call the captain of the heartbeat, at the
22 top of the heart, that is the site from which the
23 electrical impulse goes out to stimulate the heart
24 muscle to contract.

25 Q. That is the atrial?

1 A. That's right, that is the SA node. The SA
2 node sends out its signal which traverses the upper
3 part of the heart, comes to the atrial ventricular
4 node. That transmits the electrical activity to
5 the lower part of the heart.

6 Now the AV node or atrial
7 ventricular node functions like a resistance would
8 in an electrical circuit because obviously the
9 electrical activity can move much faster than the
10 blood can move through the heart.

11 In order to have the
12 synchronization of the contraction of the upper
13 half of the heart, followed by the lower half of
14 the heart, there has to be a delay in the
15 conduction of the electrical current allowing the
16 blood to follow through in a sequential fashion.

17 Let me answer this part if I may,
18 Mr. Iler.

19 Q. Sure.

20 A. The normal period of time it takes for the
21 electrical activity to go through that node is
22 about two-tenths of a second. .2 seconds. In
23 Mr. Karr's electrocardiogram the day before surgery
24 the actual figure is .216. It's slightly prolonged
25 compared to the .2 that would be the upper range of

1 the normal transmission. That is what generated
2 the term first degree AV block.

3 Q. So something was wrong with Raymond's heart
4 insofar as electrical impulses that were necessary
5 to activate the different parts of the heart?

6 MR. SCOTT: Objection.

7 A. There was a slight delay in that
8 transmission, yes.

9 Q. This surgery that Raymond went through was an
10 elective surgery, was it not?

11 A. Yes, elective in scheduling.

12 Mr. Karr was suffering quite a
13 bit. I'm sure he felt it was a very high priority
14 in order to subject himself --

15 Q. You never talked to Raymond?

16 A. No.

17 Q. You don't know if it was a high priority, do
18 you?

19 A. In reading the hospital record I gathered it
20 was. He had been suffering for several years. I'm
21 sure the operation, in his view, was believed to be
22 more than just an elective operation.

23 Q. You are guessing at that because you never
24 spoke with Raymond?

25 A. You are correct.

1 Q. If you would have asked Raymond, "Look
2 Raymond, you have an AV block here. I think we
3 ought to postpone your surgery until such time as
4 we can have that corrected," do you think Raymond
5 would have said, "Okay, I would rather have that
6 done, you straighten out my heart problem before
7 you take me into surgery"?

8 MR. SCOTT: Objection.

9 Q. You don't know what his answer would have
10 been?

11 A. I wouldn't know. I never would have posed
12 the question.

13 Q. There also was some lab studies done by
14 Dr. Schnell. He ordered those in the clearing
15 process of Raymond, am I correct?

16 A. You are correct.

17 Q. Can you tell us what is hemoglobin, what part
18 does it play in the health of our bodies; what is
19 hemoglobin?

20 A. I already testified to that earlier. To
21 recapitulate, hemoglobin is the oxygen carrying
22 part of the red blood cell. That supplies the
23 energy to the body as it goes around the body.

24 Q. Can we liken hemoglobin on a blood cell sort
25 of like a box car carrying some oxygen?

1 A. That would be a good way to look at it.

2 Q. Of course, the oxygen is necessary for tissue
3 life?

4 A. It is.

5 Q. When Raymond's hemoglobin was taken before
6 surgery May 2, 1988 it was below normal, am I
7 correct, if you wouldn't mind taking a look at
8 that?

9 A. Yes. I find the hemoglobin to be 13.8. The
10 normal value starts at 18. Very slightly below
11 normal.

12 MR. ILER: Can we go off
13 the record for just a moment?

14 - - - - -

15 (Recess had.)

16 - - - - -

17 BY MR. ILER:

18 Q. Doctor, I have blown up here a portion of
19 Raymond Karr's hospital record. This particular
20 page, I'm sure you're familiar with it, concerns
21 lab studies done for Raymond prior to his surgery.
22 I want to direct your attention to the 5-2-88 blood
23 reports. Here we find that Raymond's hemoglobin,
24 the normal range is between 14 and 18, you see
25 that, Doctor?

1 A. I do.

2 Q. No disagreement there, I'm sure?

3 A. Not a bit.

4 Q. With Raymond before the surgery we find he
5 was 13.8 which is classified as low?

6 A. That is correct.

7 Q. Raymond's capacity for his blood to carry
8 oxygen for him is below normal before surgery?

9 A. That is correct.

10 Q. We also notice the hematocrit. What is
11 hematocrit?

12 A. Hematocrit is when one takes the blood,
13 centrifuges it. It divides itself into the solid
14 elements, cells of course, and liquid elements into
15 which they have been suspended. The hematocrit
16 would be 39.6. The total volume would be in the
17 form of red blood cells.

18 We notice here that when Raymond's
19 hematocrit was tested, this is the composition of
20 his blood as you have described, normal range is
21 between 41 and 54. We find Raymond with 39.6
22 classified by the lab at Deaconess as being low,
23 correct?

24 A. Yes.

25 Q. This is true -- what was the date of

1 Raymond's surgery, for the record?

2 A. May 3rd.

3 Q. On the day before Raymond's surgery then the
4 low hemoglobin was never corrected or brought up to
5 the normal range, am I correct?

6 A. That is correct.

7 Q. Insofar as Raymonds' hematocrit, the level
8 of 39.6 was never raised up to the appropriate
9 normal level of 41 to 54, true?

10 MR. SCOTT: Objection.

11 A. That is correct.

12 Q. So Raymond went to surgery on 5-3-88 with a
13 low hemoglobin uncorrected, with a low hematocrit
14 uncorrected, true?

15 MR. SCOTT: Objection.

16 A. That is true.

17 Q. During the course of surgery there are
18 demands made by the body on many occasions for more
19 oxygen, am I correct?

20 A. That is correct.

21 Q. When we talk about the demand the body has
22 for surgery, at surgery for oxygen, it can come
23 from several -- that demand can come from several
24 sources, am I correct?

25 A. Correct.

1 Q. Can come from blood loss, true?

2 A. True.

3 Q. Can come from structural defects in our
4 hearts for example?

5 A. Yes.

6 Q. What is surgical shock for an example,
7 Doctor?

8 A. Surgical shock would be the drop in the blood
9 pressure below a critical level associated with
10 surgery. Of course it would also incorporate in
11 the definition the impaired circulation to various
12 parts of the body.

13 Q. If you are going to be a cautious physician,
14 in Raymond's case you should at least consider,
15 should you not, that Raymond is going into surgery
16 with a low hemoglobin and with a low hematocrit, am
17 I correct?

18 MR. SCOTT: Objection.

19 A. That is obviously being considered, yes.

20 Q. Is it true, turning to Dr. Tank for just a
21 moment -- Dr. Tank is what kind of a surgeon?

22 A. I believe he was a neurosurgeon.

23 Q. Do you, from the reading of the records, did
24 you understand that Dr. Tank also knew of these
25 problems that Raymond had such as diabetes,

1 hypertension, the endarterectomy, the carotids we
2 talked about, and his impairment of one of the main
3 arteries, did he know that from your reading of his
4 deposition and so forth?

5 A. I need to look at the consultation that
6 Dr. Tank dictated.

7 Q. Would you like us to go off the record for a
8 minute while you look at that?

9 Would you, please, Mr. Operator,
10 give the Doctor a minute.

11 - - - - -

12 (Brief recess had.)

13 - - - - -

14 A. Well, Mr. Iler, in answer to your question
15 about the knowledge that Dr. Tank had prior to the
16 operation, I find Dr. Tank's three page
17 consultation note of April 22, 1988 to be really
18 quite comprehensive.

19 On page two he notes that the
20 patient was a known diabetic, had the carotid
21 artery operations, treatment of high blood
22 pressure. He listed the medications that the
23 patient was taking. So I think that Dr. Tank was
24 really quite well informed as to the nonsurgical
25 aspects of Mr. Karr as he presented.

1 Q. Doctor, I spoke to you before about elective
2 surgery. This surgery for Raymond Karr, based upon
3 the medical records we have, was called elective
4 surgery?

5 MR. SCOTT: Objection.

6 A. Correct.

7 Q. We find no emergency for his surgery?

8 A. That's correct.

9 Q. Have you ever had elective surgeries which
10 have been postponed from their scheduled surgery
11 date?

12 MR. SCOTT: Objection.

13 A. Yes.

14 Q. What caused you to change a surgical date?

15 MR. SCOTT: Objection.

16 A. The feeling that the patient could be
17 improved upon, therefore have a better
18 postoperative result.

19 Q. Do you agree that both Dr. Tank and
20 Dr. Schnell were responsible for Raymond's post
21 surgery care, that is after his surgery?

22 A. I agree.

23 Q. Did you find that Dr. Schnell had come from
24 time to time to visit Raymond after his surgery?

25 A. I did.

1 Q. Was it his practice to review the medical
2 records and nurse's notes that the nurses made each
3 day or each hour of Raymond's care?

4 A. I would assume that was part of his
5 evaluation, yes.

6 Q. When you have a patient in the hospital, you
7 come in to see the patient, I think one of the
8 first stops you make is over to the nurse's
9 station. You take a look at the patient's chart.
10 You want to know how is the patient doing before
11 you got there?

12 A. Absolutely.

13 Q. You might have a conversation with the nurses
14 who made some notes, am I correct?

15 A. You are correct.

16 Q. If you find the nurse's notes make an entry
17 that exhibits something bizarre about your patient
18 you might want to ask that nurse about that, am I
19 correct?

20 A. You are correct.

21 Q. Let's turn to the operative note. I
22 understand that Raymond's surgery took how long for
23 his back? I made a record, Doctor, it was
24 four-and-a-half hours, if you can agree to that, I
25 don't want to rush you.

1 A. No, I would be willing to agree to that.

2 Q. Insofar as the surgery was concerned, this
3 was a laminectomy; is that about right?

4 A. It was a laminectomy, yes.

5 Q. More than one disc was being treated by
6 Raymond -- I got the impression L-2, 3, 4 and 5,
7 does that sound about right?

8 A. It was a decompressive lumbar laminectomy
9 L-2, 3, 4, 5; total disc excision L-4, 5; bilateral
10 posterior antibody fusion L-4, 5. I think just the
11 one disc was taken out. The operative field
12 covered the entire lumbar region.

13 Q. Anyhow, Dr. Tank worked for about
14 four-and-a-half hours on Raymond's back, am I
15 right?

16 A. The anesthesia record does seem to go about
17 that. Yes, started from 8:30 in the morning until
18 just after noon time.

19 Q. During the course of the surgery, from your
20 review of the record, it appears as though Raymond
21 had no problems during that four-and-a-half hour
22 period; can you make that conclusion all right?

23 A. I can.

24 Q. Here is a man that really went through a long
25 surgery perhaps, seemed to come through that all

1 right, right?

2 A. Yes.

3 Q. No mishap at surgery; is that correct?

4 A. That is correct.

5 Q. We don't find from the medical records here
6 anything untold occurred to Raymond during the
7 course of the surgery?

8 A. Correct.

9 Q. Do you attribute any cause of Raymond's death
10 to what occurred in the operative surgical suite?

11 A. No.

12 Q. I think we will concentrate, will we not, on
13 the causes of Raymond's death to what happened to
14 him after surgery, true?

15 A. True.

16 Q. I want to talk to you about blood loss for a
17 moment if you would, Doctor. I understand Raymond
18 Karr, based upon your judgment, after the surgery,
19 it was determined by you that he had lost 880 cc's
20 of blood, that is what your deposition testimony
21 was, Doctor?

22 A. Yes.

23 Q. If Raymond had lost 2,000 cc's of blood would
24 you become concerned and consider a transfusion in
25 that regard?

1 A. Certainly it would lend greater weight to the
2 idea of transfusion. One would have to see what
3 the blood count was postoperatively. Also how well
4 the tissue perfusion was being carried out.

5 Q. Let's take an example. Let's assume instead
6 of 880 cc's of blood loss during Raymond's surgery
7 he had 2,000 cc's. Would you as a physician now
8 become concerned, say, "Wait a minute, I think we
9 must consider what is going on here, maybe consider
10 a transfusion"?

11 A. Yes. I think that is quite likely one would
12 consider that.

13 Q. Do you know Dr. Bowl?

14 A. No.

15 Q. Did you read his deposition and his report?

16 A. Yes.

17 Q. Dr. Bowl was also an expert on behalf of
18 Dr. Schnell also, correct?

19 A. Yes.

20 Q. Dr. Bowl's opinion was Raymond had lost 2,000
21 cc's of blood during surgery, isn't that what he
22 concluded?

23 MR. SCOTT: Objection.

24 Move to strike.

25 A. I was quite puzzled by how he arrived at that

1 figure.

2 Q. Before your puzzlement --

3 MR. SCOTT: Let him
4 finish.

5 Go ahead, Doctor.

6 A. I saw that. I really couldn't figured out
7 how he got that figure. I went back over the chart
8 and couldn't find any support for that.

9 Q. Let's put it this way then.

10 You did read that Dr. Bowl's
11 opinion was Raymond lost 2,000 cc's?

12 MR. SCOTT: Objection.

13 Q. Is that a yes or a no?

14 A. I believe I saw that, yes.

15 Q. You have a disagreement with that?

16 A. Do I have a disagreement with his estimate
17 of 2,000? I do. I just voiced it.

18 Q. It appears that Dr. Bowl's opinion -- did you
19 read from Dr. Bowl that Dr. Bowl's opinion was
20 Raymond had lost 1,200 cc's at surgery and 800
21 after surgery, equaling 2,000 cc's. Did you read
22 that analysis by Dr. Bowl?

23 MR. SCOTT: Objection.

24 A. I think I already answered the question. I
25 will say yes again. I read it but I didn't believe

1 it.

2 Q. What kind of physician is Dr. Bowl?

3 A. I think he's an orthopedist.

4 Q. He's a fellow that does back surgeries such
5 as Raymond had?

6 A. Yes.

7 Q. Is it your judgment, Doctor, that hematocrit
8 and hemoglobin must be measured each day for a
9 patient such as Raymond, a patient such as Raymond
10 having that kind of surgery?

11 A. I don't know about each day. It's prudent to
12 measure it frequently.

13 Q. What is the reason for that prudence; why
14 should that be done?

15 A. To make sure there is not a continuing blood
16 loss.

17 Q. Why should that be watched?

18 A. We already referred to before to the function
19 of blood carrying oxygen around the body. We
20 obviously want to have an adequate amount of
21 perfusion of the tissue so they can perform their
22 various duties.

23 Q. Let us take a look, Doctor, if you will, back
24 to the diagram I have enlarged of Raymond's
25 hospital chart. What we find now is that on May

1 4th, of '88 the hematocrit, hemoglobin were again
2 taken for Raymond's blood. This is after surgery,
3 am I correct?

4 A. You are correct.

5 Q. Now we find that Raymond's hemoglobin is 8.5
6 and that is classified --

7 A. 8.8 isn't it?

8 Q. My apologies, Doctor, 8.8, classified by the
9 lab at Deaconess as low?

10 A. Correct.

11 Q. It's quite a drop, is it not, a hemoglobin
12 drop from 13.8 before the surgery to 8.8 after
13 surgery, that is quite significant, would you
14 agree?

15 A. I would.

16 Q. We also now find that the lab has taken
17 another look at Raymond's blood after surgery, his
18 hematocrit which you have described for us also, we
19 find that dropped now some 13 points down to 26.0,
20 am I correct?

21 A. You are.

22 Q. That is a significant drop?

23 A. It is.

24 Q. Raymond is in trouble, isn't he?

25 MR. BONEZZI: Objection.

1 MR. SCOTT: Objection.

2 A. I don't know we can draw that conclusion.
3 There is more to the patient than looking at the
4 numbers.

5 Q. Of course. My question to you is, when we
6 look at these numbers now, isn't it reasonable to
7 conclude, Dr. Watts, Raymond is in trouble; his
8 hemoglobin is down from 13.8 to 8.8?

9 MR. SCOTT: Objection.

10 Q. His hematocrit dropped from 39.6 to 26.0,
11 this man is in trouble, am I correct?

12 MR. SCOTT: Objection.

13 A. No, you see, Mr. Iler, clinical judgment has
14 to be invoked because we don't play a numbers game
15 in medicine. We look at the entire patient. If
16 the patient is doing well, we are not stampeded by
17 a number in the chart.

18 Q. You think Raymond was doing well?

19 A. I do.

20 Q. Do you agree, Doctor, that the two numbers we
21 will call them, of the hemoglobin done on 5-4, 8.8,
22 that drop in hemoglobin was caused by the surgery?

23 A. Yes, I do.

24 Q. We find that the hematocrit dropped from 39.6
25 before surgery, then 26.0. The 26.0 drop is once

1 again caused by Raymond's surgery?

2 A. Exactly.

3 Q. Then you do agree that the blood loss during
4 Raymond's surgery was the factor that caused the
5 drop in hematocrit and hemoglobin as we described?

6 A. I do.

7 Q. Of course, just for purposes of the record,
8 on May 4th of '89 with the hematocrit at 8.8 --
9 pardon me, with the hemoglobin 8.8, hematocrit
10 at 26.0 no blood transfusion was ordered or given
11 to Raymond?

12 A. So the record shows.

13 Q. Was he given fluids?

14 A. Yes. I testified to that in my diagram. He
15 was given a lot of fluids. 100 cc's per hour
16 intravenously.

17 Q. None of those fluids contained blood?

18 A. So I testified.

19 Q. So instead of giving Raymond blood for his
20 blood loss here, drop in hemoglobin, drop in
21 hematocrit, fluids were given instead?

22 A. That is correct.

23 Q. Who ordered that?

24 A. They were ordered initially by the surgeon.

25 Q. That would be who?

1 A. Dr. Tank.

2 Q. Was there consultation anywhere in the
3 records that you found between Dr. Tank and
4 Dr. Schnell concerning this drop in hemoglobin?

5 A. I believe Dr. Schnell was advised of the
6 blood count on the evening of May 4th, advised that
7 Dr. Tank be called to inform, so that Dr. Tank
8 would be up-to-date what the actual blood count
9 was.

10 Q. So I think from the records, from the
11 testimony that we have heard in the case, the nurse
12 told Dr. Schnell on the day after the surgery that
13 Raymond's blood dropped as we described. The nurse
14 was told by Dr. Schnell to call Dr. Tank?

15 A. Yes.

16 Q. Do the records reveal, the hospital records
17 reveal any conversation, if any, between Dr.
18 Schnell and Dr. Tank concerning this report?

19 A. I don't recall offhand that there was a
20 notation in the hospital chart the two of them
21 talked directly. Only indirectly by way of the
22 nurse being instructed by Dr. Schnell to call
23 Dr. Tank and bring him up-to-date as to what the
24 blood count was Dr. Schnell had been called about
25 from the nurse.

1 Q. With the drop in the hematocrit to 26 and
2 hemoglobin to 8.5, is Raymond now classified, in
3 your judgment, as being anemic?

4 A. He is.

5 Q. When we say anemic, what do we mean by
6 anemic?

7 A. That means one has less blood cells than the
8 normal person would have.

9 Q. Was there any way these blood cells would
10 increase from 8.5 back to 14 by itself?

11 A. Yes.

12 Q. Let me ask you a question, Doctor: Insofar as
13 the hematocrit and anemia that has been discussed,
14 anywhere in the records has Dr. Schnell ever
15 written down the patient was anemic?

16 A. I would have to look at his progress notes to
17 answer that. I don't recall offhand. Let's turn
18 to the chart. I don't see that Dr. Schnell has
19 written down the word anemia.

20 Q. Let's return now to the laboratory reports
21 from Deaconess Hospital. What we find now is that
22 there in fact was another analysis made of
23 Raymond's blood, am I correct, Doctor?

24 A. You are.

25 Q. What date would that be; would that be the

1 day after surgery, 5-4?

2 A. It is.

3 Q. What time of the day was that taken?

4 A. This is the 24-hour military clock. It's
5 listed at 2100 so that would be nine o'clock in the
6 evening.

7 Q. When was the first one done, the one that
8 came out 8.8 and 26.0?

9 A. 7:46 in the morning.

10 Q. So one was done in the morning, one was done
11 at nine o'clock at night?

12 A. That's right.

13 Q. Let's take a look at those, Doctor, if you
14 will.

15 On the day after Raymond's surgery,
16 at nine o'clock at night, once again there is an
17 examination of his blood. What do we find? Don't
18 we find another drop in his hemoglobin rate, that
19 is blood carrying oxygen capacity has dropped again
20 from 8.8 to 7.6; isn't that true?

21 A. That is true.

22 Q. We look at his hematocrit. I think you
23 described that for us. Now we see his hematocrit
24 dropped another three percentage points from 26
25 down to 23, right?

1 A. Yes.

2 Q. We take this together, we see that these two
3 lab reports here have come, showed continual drop
4 in hemoglobin of his blood, we see a drop in
5 hematocrit, isn't Raymond now in trouble at nine
6 o'clock at night, May 4th, 1988?

7 A. This is the same question you asked earlier.
8 We can't take the numbers in themselves, say he's
9 in trouble. He's anemic. That we can agree upon.

10 Q. Let me put it this way: As a careful
11 physician, you look here, you say, "Wait a minute,
12 this man's had two blood analyses. One at 7:30 in
13 the morning, one at nine o'clock at night, I find
14 his hemoglobin is dropping. We need to give this
15 man some blood"; isn't that what is needed here?

16 A. No. That would be one's judgment. The
17 judgment, as I said before, incorporates all of the
18 elements in the global assessment of the patient
19 himself and whether he's showing a lack of the
20 affects of the decreased blood supply.

21 Q. We know one thing, this is true, is it not,
22 Doctor, we can be sure of this point, that if you
23 gave -- if Dr. Tank or Dr. Schnell gave Raymond
24 blood at the times when his hemoglobin was down
25 on 5-4, it wasn't going to hurt him, it was going

1 to help him, true?

2 MR. SCOTT: Objection.

3 A. Not necessarily. Transfusions have their own
4 set of risks.

5 Q. Let's eliminate the risk of hepatitis for a
6 minute.

7 A. Good.

8 Q. If we do that, my question to you is
9 eliminating that risk, transfusing Raymond on 5-4,
10 with these values we see here, that could help him,
11 couldn't it?

12 A. It could help him, yes. It could help raise
13 the blood count. I'm not sure it would help his
14 general condition.

15 Q. One thing it would do, it certainly would
16 pick up the counts we have from 8.8, 13.8 to 7.6
17 that would treat that?

18 A. It would treat the numbers.

19 Q. Sure. There was no contraindication for
20 Raymond having a blood transfusion, am I correct?

21 A. That is correct.

22 Q. There was nothing within the man's makeup
23 that would prohibit a physician giving him blood?

24 A. That is true.

25 Q. I'm going through a few questions, Doctor, if

1 you be patient with me.

2 Doctor, when you have a situation
3 such as occurred at nine o'clock on May 4th, 1988
4 when Raymond's hemoglobin is down to 7.6 from 13.8,
5 his hematocrit dropped from 39.6 to 23.0, isn't
6 this condition placing a stress on Raymond's heart?

7 A. Yes, it is.

8 Q. Why?

9 A. Well, he has to pump more blood in order to
10 get the same oxygen delivery than he would if he
11 had a more normal blood count.

12 Q. Why is that? His heart just has to pump
13 faster or stronger?

14 A. It has to pump a greater volume. Whether it
15 pumps a greater volume per beat, whether it has
16 more beats per minute, it turns out to be a greater
17 volume of blood circulated each minute than it
18 would be otherwise.

19 Q. What happens if his heart can't do that?

20 A. If his heart couldn't do that he might
21 develop signs of heart failure.

22 Q. Dr. Schnell ordered an EKG on the day of
23 Raymond's death 5-5, May 5th; am I correct, sir?

24 MR. SCOTT: Objection.

25 A. You are correct.

1 Q. So that record -- EKG of course is -- I'm
2 simplifying it, it's a tracing of Raymond's heart
3 to see how the beats are going?

4 A. Electrical activity of the heart.

5 Q. To see how Raymond's heart is doing?

6 A. Right.

7 Q. What time was that done, do you know, sir?

8 A. 7:47 in the morning.

9 Q. When did Raymond die?

10 A. 9:55.

11 Q. In the morning?

12 A. Yes. Almost exactly two hours.

13 Q. What we find now with the EKG that was done
14 on Raymond, we find that there were signs of
15 ischemia, am I correct?

16 A. Yes.

17 Q. What is ischemia, what do we mean by that?

18 A. Ischemia is a lack, a relative lack of
19 circulation to the heart muscle. This shows in a
20 characteristic fashion on electrocardiogram.

21 Q. In order for Raymond's heart to appropriately
22 function the heart must have oxygen, true?

23 A. True.

24 Q. If you cut the oxygen off and reduce the
25 oxygen to Raymond's heart, you are going to -- that

1 heart is going to demand that oxygen; is that not
2 right?

3 A. That is correct.

4 Q. If the heart calls to Raymond's body, says
5 give me some more oxygen, Raymond's body and blood
6 doesn't have it, that heart can be in trouble, am I
7 correct?

8 A. That is possible.

9 Q. Isn't that what happened here to Raymond when
10 Dr. Schnell ordered the EKG?

11 A. The electrocardiogram showed some ischemia.
12 It was what we call silent ischemia. He never had
13 any symptoms relevant to that. We know from people
14 with coronary disease they often have this sort of
15 thing on the electrocardiogram without any symptom
16 that they are conscious of. That apparently was
17 the case with Mr. Karr.

18 Q. Is this true that the ischemia was caused by
19 the lack of oxygen?

20 A. A relative lack of oxygen, yes.

21 Q. Now, no transfusion was ordered by
22 Dr. Schnell when he saw the EKG at 7:47 in the
23 morning?

24 A. I think first of all we are assuming he saw
25 the electrocardiogram at 7:47. My understanding is

1 he didn't see it until after the patient died.

2 Q. Are you guessing at that?

3 A. I believe that was in his testimony. So from
4 that standpoint, I don't have it here in front of
5 me, that was my understanding he did not see the
6 electrocardiogram until after the events.

7 Q. With an EKG such as this, where you see
8 ischemia on EKG, is a doctor usually notified about
9 that? Isn't that an important finding?

10 A. It's an important finding. Since I don't
11 practice at Deaconess Hospital I don't know how
12 things are there.

13 I can say that at Fairview Hospital
14 this sort of thing would not be brought to anyone's
15 attention until the physician reading the
16 electrocardiogram saw the electrocardiogram.

17 Q. No transfusion was given to Raymond
18 May 5, 1988 before his death, true?

19 A. That is correct.

20 Q. Let's turn to a portion of the record, if you
21 will, Doctor, concerning Raymond.

22 MR. ILER: May I have a
23 moment?

24 - - - - -

25 (Brief recess had.)

1

- - - - -

2

Q. Doctor, is it true that if a patient is not

3

getting enough oxygen he may show signs and

4

symptoms of confusion?

5

A. That is possible.

6

Q. I think what you said in your deposition was

7

that you did not believe that Raymond was confused,

8

am I correct?

9

A. You are correct.

10

Q. Let me show you something, Doctor.

11

This is a nursing note, Doctor, I

12

have enlarged it, it's part of Raymond's record. I

13

have underlined in red a few of these notes. You

14

will note, please, that this s the nursing note of

15

May 4th of '88. We find here that the nurse has

16

written as follows. Can you read that for us?

17

A. The part that is underlined, Mr. Iler, says,

18

"Patient rambled on and on in conversation." The

19

lower part that is underlined is two words, "Is

20

forgetful."

21

Q. When the nurse looked at Raymond after

22

surgery she found, for an example, that he was

23

rambling on and on, true?

24

A. That is true.

25

Q. Also that he was becoming forgetful, right?

1 A. Yes.

2 Q. Can these be signs of oxygen deprivation?

3 MR. SCOTT: Objection.

4 A. They can. I think that everybody would be
5 accused of that at one time or another. I'm sure
6 everyone is forgetful and has rambled on and on at
7 least in the opinion of somebody else.

8 Q. The question that I've asked you is with this
9 nurse's note observing Raymond was consistent with
10 oxygen deprivation, true?

11 A. It could be consistent with it.

12 Q. Taking a look, if you will, Doctor, with this
13 note I have here of -- once again a note, this one
14 is made by Dr. Tank. Would you please take a look
15 at this for me, I have enlarged it. Dr. Tank made
16 a note here on 5-4, the day after surgery
17 concerning Raymond's condition, am I correct?

18 A. You are correct.

19 Q. Did you notice what he has written here?

20 A. I did.

21 Q. What does he say?

22 A. "Inappropriate, confused."

23 Q. What was inappropriate?

24 A. I don't know what Dr. Tank's definition of
25 inappropriate is. I suspect having to do with what

1 you just had up there before about the rambling on
2 and on. What you didn't underline on the previous
3 page, the sentence after "Patient rambles on and on
4 in conversation, Dr. Tank aware." It may well be
5 Dr. Tank felt the things he was rambling on and on
6 about were inappropriate to the situation.

7 Q. So, Dr. Tank, the neurosurgeon, also marks in
8 here on the medical records, he says that Raymond
9 is confused, true?

10 A. That is what he said.

11 Q. Turning, Doctor, to another portion of the
12 hospital records for Raymond, which I have
13 enlarged, I want you to take a look at the note on
14 the day of his death, May 5th, 1988. Here we have
15 a record made by Dr. Tank. What does Dr. Tank
16 write in the underlined portion?

17 A. Still inappropriate.

18 Q. The inappropriateness Raymond has exhibited
19 can be caused by a lack of oxygen; is that true?

20 A. It's possible.

21 Q. In your deposition statement where you
22 indicated Raymond was not confused, is not
23 accurate, true?

24 A. Well, there is quite a few nurse's notes
25 which indicate he was not confused. The nurse of

1 course spends eight hours with the patient. The
2 doctor is there only for a few minutes. I tend to
3 put more credence to the nurse's evaluation of the
4 question of confusion than I did the doctor's.

5 Q. When Raymond had his ischemia, how was he
6 treated for that?

7 A. He was not treated.

8 Q. Did they give him any oxygen?

9 A. Did he get oxygen?

10 Q. Did they give him any?

11 A. I would have to look and see. Do you want me
12 to do that?

13 Q. Whatever you choose.

14 A. I would assume he was getting oxygen. I
15 would have to look to be certain.

16 Q. Let's turn, Doctor, to the cause of Raymond's
17 death, as you described, in your opinion.

18 A. Yes.

19 Q. You indicated from your opinion that it was
20 coronary arterial sclerosis which caused Raymond's
21 death?

22 A. Yes.

23 Q. There are two experts testifying for the
24 defense, one is Dr. Bowl and he has an opposite
25 view than yourself, am I correct?

1 MR. SCOTT: Objection.

2 A. Correct.

3 Q. Dr. Bowl said no he didn't die of coronary
4 arterial sclerosis, he had a pulmonary embolism?

5 MR. SCOTT: Objection.

6 A. I'm aware of that opinion on Dr. Bowl's
7 part. I can't share it.

8 Q. Dr. Likovic, if I'm pronouncing that correct,
9 has been retained as an expert physician on defense
10 of Dr. Tank. His opinion, I think you read also,
11 agrees with Dr. Bowl, he thinks it was a pulmonary
12 embolism.

13 A. I'm aware of the difference.

14 MR. ILER: May I have just
15 a moment, please?

16 - - - - -

17 (Brief recess had.)

18 - - - - -

19 MR. ILER: Thank you.

20 Mr. Scott, with the exception of
21 the objections which I made which we will await the
22 rulings, I have no other questions of Dr. Watts,
23 thank you, sir.

24 MR. BONEZZI: Dr. Watts, my
25 name is Bill Bonezzi. I represent Dr. Tank. I

1 have some questions for you and I will be very
2 brief.

3 - - - - -

4 CROSS-EXAMINATION

5 BY MR. BONEZZI:

6 Q. You have reviewed the records as you have
7 testified to this afternoon sufficiently enough to
8 allow you to draw conclusions and opinions relative
9 to the care provided to Mr. Karr; is that correct?

10 A. That is correct.

11 Q. In the records that you reviewed was there
12 anything that you read that would have suggested
13 that prior to the laminectomy that was performed by
14 Dr. Tank, Mr. Karr had anything but a normal
15 cardiac function relative to his heart?

16 A. There was nothing that indicated any abnormal
17 cardiac function.

18 Q. In other words, or put another way, from the
19 cardiologic standpoint -- you are a certified
20 cardiologist are you not?

21 A. I am.

22 Q. Would it be your opinion Mr. Karr had normal
23 cardiac function that led up to the time of his
24 surgery?

25 A. That is my opinion.

1 Q. Dr. Watts, you are familiar with the
2 controversy that existed in 1988 and that existed
3 prior to that relative to the so-called trigger
4 that caused transfusions of patients, are you not?

5 A. Yes.

6 MR. ILER: Note my
7 objection to this line of questioning about
8 trigger.

9 Q. As a matter of fact, in the 1980s and
10 continuing on until today there is indeed a
11 question as to what level ones hemoglobin must drop
12 to prior to the time in which a transfusion of
13 blood products is necessary, correct?

14 MR. ILER: Note my
15 objection.

16 A. Correct.

17 Q. When dealing with the thought of whether or
18 not a patient needs to be transfused, the physician
19 providing care doesn't just look at numbers, does
20 he or she?

21 A. That is correct. It has to be a global
22 assessment. We don't play the numbers game. We
23 look at the entire patient, how well he's doing.

24 Q. You will agree with me one of the important
25 criteria in determining whether or not a patient

1 does indeed need a transfusion of blood products is
2 what their clinical setting is demonstrating at the
3 moment?

4 A. Absolutely.

5 Q. The physician will take into account what the
6 clinical manifestation might be of a patient,
7 together with laboratory data, and look at all of
8 that, then come to a conclusion as to what will be
9 done for that particular patient at that particular
10 time, would you agree with that?

11 A. Exactly.

12 Q. As far as May 5th, 1988 is concerned, did you
13 review the nursing notes to determine whether
14 Mr. Karr happened to be alert and oriented? If
15 you don't recall just look at the nurse's notes.

16 A. I do. He was alert and oriented.

17 Q. What is the significance of that to you as a
18 cardiologist dealing with the type of problem that
19 we have here, in other words, whether or not an
20 individual needed a transfusion?

21 A. There wasn't any evidence there was any
22 impaired circulation to the brain or any other part
23 of his body that would indicate the necessity or
24 desirability of having a transfusion.

25 He had a comfortable night the

1 night before the nurse's notes show. Seemed to be
2 doing quite well in his postoperative period hours
3 in the early hours of the morning of May 5th.
4 Certainly from the standpoint of the overall
5 assessment of the patient, various bodily
6 functions, there wasn't any indication that a
7 transfusion was needed.

8 Q. As of May 5th, 1988, the day in which
9 Mr. Karr died, he was actually left alone for a
10 period of time in the morning before he was found,
11 was he not?

12 A. That is correct.

13 Q. Who left him alone?

14 A. The nurse.

15 Q. Was it the assessment or judgment of the
16 nurse that his clinical stature was such that she
17 was indeed in a position to allow him to be left
18 alone?

19 MR. ILER: Note my
20 objection to that supposition. There is no way the
21 doctor could know that.

22 Q. Based upon the record.

23 MR. ILER: Note my
24 objection.

25 A. Based upon the record the nurse felt the

1 patient was capable of being left alone for a
2 period of time.

3 MR. ILER: Ask that the
4 answer be stricken from the record.

5 Q. Are you aware of something that is called
6 cardiac reserve?

7 A. Yes.

8 Q. Are you also aware of something that is
9 called physiologic reserve as it relates to the
10 oxygen carrying capacity in humans?

11 A. Yes.

12 Q. Would you agree with me that the oxygen
13 carrying capacity in humans is approximately four
14 fold the oxygen requirement which is the so-called
15 physiologic reserve?

16 A. Yes.

17 Q. What is the significance of that, sir, as it
18 relates specifically to ones hemoglobin and
19 hematocrit levels?

20 A. Basically shows you can still function at
21 optimum levels with a considerable reduction in
22 hemoglobin delivering power of the blood to deliver
23 oxygen throughout the body.

24 Q. As long as one has a normal cardiac function,
25 correct?

1 A. As long as there is normal circulating blood
2 volume, the oxygen carrying capacity of the blood
3 can still give adequate support to the functioning
4 tissues of the body.

5 Q. Would you also agree that -- before I get
6 into that, what is myocardium?

7 A. Myocardium is the heart muscle.

8 Q. Now, would you agree that the myocardium can
9 adapt adequately to low grade anemia and as a
10 result will not need transfusion of blood?

11 A. I do.

12 MR. ILER: Note my
13 objection to that.

14 Q. Do you have an opinion, based upon your
15 review of these records, the level of anemia that
16 Mr. Karr had during his confinement between May 2nd
17 and May 5th of '88?

18 A. Turning to the material that Mr. Iler
19 supplied a few minutes ago where his hemoglobin
20 dropped down to the seven to eight gram range,
21 hematocrit 26 down to 23 in the several days after
22 the operation.

23 Q. Even though there was a diminishment in those
24 levels as earmarked by the record, he was still
25 alert, he was oriented to person, place and time on

1 the morning of May 5, 1988?

2 A. That is correct.

3 Q. What is the significance of being alert and
4 oriented to person, place and time relative to an
5 individual who has had a drop in the hemoglobin
6 level and hematocrit level such as Mr. Karr?

7 A. That shows that even with that change in his
8 oxygen carrying capacity, that he was still
9 functioning within the normal range as far as brain
10 function was concerned. So that even with the
11 sudden imposition of the anemia relevant to
12 operation, he was still functioning in apparently
13 normal fashion.

14 Q. As a result, one takes a look at the clinical
15 picture of a patient and then takes a look at the
16 laboratory data of that patient, assuming blood is
17 drawn, correlates the information and arrives at a
18 conclusion or opinion what should be done for that
19 patient, correct?

20 A. Correct.

21 Q. As of May 5, 1988 do you have an opinion
22 based upon a reasonable medical probability whether
23 or not Mr. Karr should have received a transfusion,
24 based upon what is evidenced in the record?

25 A. I have an opinion.

1 Q. What is it?

2 A. He did not need a transfusion on May 5, 1988.

3 MR. BONEZZI: Nothing

4 further. Thank you, sir.

5 MR. SCOTT: Doctor, let me
6 follow up with a few more questions in connection
7 with the examination by Mr. Iler.

8 - - - - -

9 REDIRECT EXAMINATION

10 BY MR. SCOTT:

11 Q. You testified in response to Mr. Iler's
12 questions that you had known Dr. Schnell, I think
13 Mr. Iler perhaps carried that to some unnecessary
14 degree. How did you know Dr. Schnell besides
15 having met the doctor in medical school?

16 A. Actually I had no other contact with him. As
17 I said before, he was a student a year behind me so
18 I saw him in various student activities. I started
19 internship early because of the end of the war he
20 may well have been one of the students I supervised
21 in my role as an intern.

22 We have known each other during our
23 years in practice because we practice in the
24 same -- we practice on the west side of Cleveland.
25 Although he doesn't come to the hospitals that I go

1 to, I don't go to the hospitals he's on the staff.
2 As I said before, we have had a few patients who
3 moved from one service area to the other. Has been
4 referred from one of us to the other. I'm sure
5 there have been years that have gone by that I
6 haven't physically seen Dr. Schnell nor even talked
7 to him on the telephone.

8 MR. ILER: Before you
9 proceed any further, may I look at the Doctor's
10 notes while are you questioning him?

11 MR. SCOTT: No.

12 MR. ILER: Why not? He
13 referred to them during his examination.

14 THE WITNESS: You had a copy
15 of them before.

16 MR. ILER: Those I don't
17 have.

18 Q. Doctor, you also indicated that you reviewed
19 cases in the past for both me and other law offices
20 in Cleveland. Have you on those occasions also
21 indicated that the cases do not have merit, cannot
22 be defended?

23 A. I have.

24 Q. Doctor, is there anything about the diabetes
25 which Mr. Iler mentioned which was not

1 appropriately treated in this case by Dr. Schnell
2 or by Dr. Tank?

3 A. No, he had excellent treatment of his
4 diabetes. The operation imposes quite a load on
5 the regulation of blood glucose. This was very
6 capably taken care of by Dr. Schnell.

7 Q. Likewise as to the hypertension the patient
8 had for many years, was that condition treated
9 appropriately by Dr. Schnell or by Dr. Tank?

10 A. Well, certainly treated over the years by
11 Dr. Schnell very appropriately with adequate
12 medication and in the postoperative period it was
13 also continued on. His blood pressure was quite
14 well controlled.

15 Q. Was there anything about the EKG that was
16 done before the surgery that suggested that the
17 surgery should not take place?

18 A. Absolutely not.

19 Q. Mr. Iler I think at one time suggested at one
20 time you are blaming Dr. Tank. Are you blaming
21 Dr. Tank for anything in that regard?

22 A. No.

23 Q. Did you attribute any care of Dr. Schnell or
24 Dr. Tank to the death of this patient?

25 MR. ILER: Note my

1 objection. He's not an expert for Dr. Tank. We
2 will make an objection to that.

3 Q. Is there anything in the care rendered by
4 Dr. Tank or Dr. Schnell which in your opinion was
5 below standard of care or caused the death of the
6 patient?

7 MR. ILER: Note my
8 objection.

9 A. No, there was not.

10 Q. Mr. Iler also mentioned that the patient was
11 somewhat anemic prior to surgery. That he was 13.8
12 instead of 14. Is that condition significant to
13 you, Doctor?

14 A. No.

15 Q. Why not?

16 A. Well, it's so close to normal. I think at
17 the risk of overburdening the jury with statistics,
18 the way we decide normal is to take 95 percent of
19 the normal population, which means that five
20 percent of the normal population is going to fall
21 outside that range. This is a good example of how
22 when you look slavishly at one figure, say that is
23 normal, 13.8 compared to 14 is such a small
24 difference I think it would have to really be
25 considered normal.

1 I'm perfectly willing to admit the
2 laboratory put the letter L next to it to show it
3 to be low. I wouldn't consider it an abnormality
4 of any significance.

5 Q. Did you believe that the value of 13.8 ought
6 to be treated with a transfusion or in any other
7 fashion prior to surgery?

8 A. No.

9 Q. Doctor, you also mentioned that when there
10 are less blood cells the heart is required to work
11 somewhat more to compensate by pumping more volume
12 or pumping a greater number of beats. Was there
13 anything in the review or history of this patient
14 that suggested to either one of these doctors that
15 Mr. Karr's heart could not pump the additional
16 volume of blood that was required?

17 MR. ILER: Note my
18 objection to both of these doctors.

19 Go ahead.

20 A. No.

21 Q. Doctor, in fact the item of confusion which
22 is noted on May 4th in the progress note by
23 Dr. Tank, do you have any opinion as to whether
24 that confusion was caused by the drugs given to the
25 patient at that time?

1 A. Well, it's possible. The nurse's notes are
2 full of comments about being alert and oriented.
3 So I think that in general the patient was really
4 quite in contact with his surroundings.

5 VIDEOGRAPHER: Standby. Off
6 the record.

7 - - - - -

8 (Brief recess had.)

9 - - - - -

10 Q. Doctor, when there is a blood loss sufficient
11 to cause lack of oxygen to the tissues would you
12 expect to see certain signs and symptoms?

13 A. Yes.

14 Q. What would you expect to see?

15 A. We spent quite a bit of time talking about
16 confusion. That obviously would be one sign of
17 impaired perfusion to the brain. Congestion in the
18 lungs, shortness of breath, chest pain due to
19 angina would be some of the signs in the heart and
20 lungs. Cold hands and feet. So these are some of
21 the things that we would expect to see.

22 Q. Did you find any of those in your examination
23 in the record?

24 A. No.

25 Q. Doctor, if there were bleeding that would

1 cause a loss of 50 percent of volume of the
2 patient's system, would you expect to find evidence
3 of that bleeding some place?

4 A. Yes.

5 Q. Would you expect to find evidence of bleeding
6 in the autopsy which was performed?

7 A. I would certainly think so.

8 Q. Did you look at that autopsy to see if there
9 were findings of bleeding?

10 A. I did.

11 Q. Did you find any?

12 A. No.

13 Q. Mr. Iler also questioned as to whether a
14 transfusion would have helped this patient.

15 Do you have an opinion that a
16 transfusion of blood in this case would have made
17 any difference whatsoever in the course and life of
18 this patient?

19 A. I have an opinion.

20 Q. What is your opinion?

21 A. I don't think a transfusion would have made
22 any difference in the death of the patient. His
23 death was not related to the drop in blood count.
24 Was part and parcel of the natural history of his
25 coronary artery disease.

1 MR. SCOTT: I have no
2 further questions. Thank you, Doctor.

3 - - - - -

4 (Dr. Watts Deposition Exhibits 1 and 2
5 marked for identification.)

6 - - - - -

7 RECROSS-EXAMINATION

8 BY MR. ILER:

9 Q. Doctor, I want to hand you what has been
10 marked Exhibit 1 and 2. These are notes made in
11 your own handwriting, am I correct?

12 A. You are correct.

13 Q. Concerning the analysis you made of this
14 case?

15 A. You are correct.

16 Q. I want to direct your attention to the second
17 page of Exhibit 1. You wrote this, it says to
18 Scott, that is Mr. Scott?

19 A. Yes.

20 Q. Would you read the rest of your note there,
21 please?

22 A. My note to Mr. Scott says that based upon the
23 autopsy data the patient probably was a candidate
24 for coronary artery bypass grafts.

25 The question, it has been a long

1 time since I wrote this note, the question I think
2 Mr. Scott may have posed to me in the telephone
3 conversation was whether a pathologist who
4 specialized in the heart would be of help. My
5 answer to him was a cardiac pathologist would you
6 not be of help. You really have to look at these
7 things from the clinical standpoint. I didn't see
8 how the pathologist would be of any particular
9 help. I'm speaking from memory. This was quite a
10 while ago, the better part of a year ago.

11 Q. I want you to help me out with a point, read
12 verbatim the last line that says to Scott, meaning
13 Mr. Scott, can you read the next words verbatim?

14 A. Yes. I thought I had. "Probably was
15 candidate for CABG," coronary artery bypass graft.

16 Q. Next line?

17 A. "Cardiac pathologist unable to help." I have
18 just elaborated on that part of the answer.

19 Q. You did entertain, did you not, an opinion at
20 one time that Mr. Karr was a candidate for heart
21 bypass surgery?

22 A. First of all, let me, in order to elaborate
23 on that, I'm looking at him from the basis of the
24 autopsy only. You see he wasn't a candidate in
25 life because he didn't have symptoms relative to

1 coronary circulation. You would not advocate an
2 operation on somebody who is asymptomatic. It's
3 hard to improve upon lack of symptoms even by
4 surgeons.

5 Q. One thing you did know when you wrote that
6 note was the following: Number one, in 1981 both
7 his carotid arteries were decreased, one to the
8 point of 80 percent and one to the point of 95
9 percent, you knew that?

10 A. I did.

11 Q. Number two, you knew that of the three main
12 arteries to his heart one was blocked almost
13 completely?

14 A. No, I'm afraid you are distorting the facts.

15 MR. SCOTT: Let him answer
16 the question, please.

17 Q. Let me ask you this.

18 MR. SCOTT: Let him answer
19 the question.

20 Q. One of his three main arteries to his heart
21 was 40 to 50 percent blocked, true?

22 A. May I answer in a way --

23 MR. SCOTT: Yes, go ahead
24 and answer, Doctor.

25 Q. Is that true?

1 MR. SCOTT: You may answer,
2 Doctor.

3 A. May I answer?

4 Q. Sure.

5 A. Mr. Iler, the answer is first of all, most
6 importantly the physicians at the Cleveland Clinic
7 who performed the cardiac catheterization in 1981
8 said that the narrowing of one artery was not
9 hemodynamically significant. The reason they did
10 the cardiac catheterization was to clear him for
11 the carotid surgery. They found no reason for him
12 to be operated upon.

13 To get to your portion of providing
14 the answer for me. He did have a 40 to 50 percent
15 narrowing at the origin of one of the more distant
16 branches of one of the coronary arteries. The
17 amount of impairment to circulation was really
18 very, very small.

19 Q. And he also -- Raymond was also on five
20 medications, am I correct?

21 A. I don't know what he was taking in 1981.

22 Q. In 1988 before he had his surgery he was
23 taking five cardiac medications, true?

24 A. True.

25 MR. ILER: Thank you, no

1 other questions.

2 Do you have a copy of these? I
3 would like to make a copy.

4 MISS ILER: Also a copy of
5 the diagram used by the Doctor.

6 THE WITNESS: I mailed these
7 to you months ago.

8 MISS ILER: You didn't mail
9 them to me. We never received them from Mr. Scott
10 probably.

11 MR. SCOTT: We will be
12 happy to give you another copy.

13 MISS ILER: It would be
14 unusual for you to send me something.

15 MR. ILER: Off the
16 record.

17 - - - - -

18 (Discussion had off the record.)

19 - - - - -

20 FURTHER REDIRECT EXAMINATION

21 BY MR. SCOTT:

22 Q. Doctor, your note Mr. Iler just referenced,
23 by those notes you don't mean to suggest in any
24 fashion that the doctors knew or could have known
25 about the stenosis, the plugging up of the arteries

1 which was only found on autopsy do you?

2 A. That's, correct Mr. Scott. I would like to
3 point out too, as I said before, that is no one
4 would operate, no one would advocate surgery on a
5 man who had no symptoms. He had no cardiac
6 symptoms.

7 I was really looking at this from
8 the standpoint of his autopsy. Was it anatomically
9 possible to operate on his heart. The answer to
10 the question is yes it was anatomically possible.
11 We don't operate on patients because of anatomy.
12 We operate on patients because of the affects of
13 the anatomy on their lifestyle and so forth. I
14 wouldn't want my testimony to indicate he should
15 have gone to a cardiac surgeon because he shouldn't
16 have.

17 MR. SCOTT: Thank you very
18 much, Doctor. That is all.

19 MR. ILER: We have no
20 other questions of the Doctor, thank you.

21

22

23

- - - - -

24

(Deposition concluded; signature waived.)

25

- - - - -

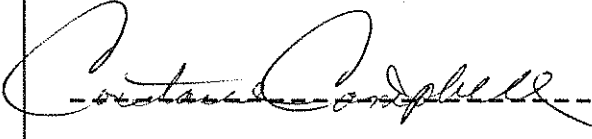
1 The State of Ohio, :

2 County of Cuyahoga. : CERTIFICATE:

3 I, Constance Campbell, Notary Public within
4 and for the State of Ohio, do hereby certify that
5 the within named witness, RICHARD WATTS, M.D. was
6 by me first duly sworn to testify the truth in the
7 cause aforesaid; that the testimony then given was
8 reduced by me to stenotypy in the presence of said
9 witness, subsequently transcribed onto a computer
10 under my direction, and that the foregoing is a
11 true and correct transcript of the testimony so
12 given as aforesaid.

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

18 IN WITNESS WHEREOF, I have hereunto set my
19 hand and affixed my seal of office at Cleveland,
20 Ohio, this 16th day of March, 1993.

21 
22 -----

23 Constance Campbell, Stenographic Reporter,
24 Notary Public/State of Ohio.

25 Commission expiration: January 14, 1998.

Look-See Concordance Report

1,588 UNIQUE WORDS

386 NOISE WORDS

17,813 TOTAL WORDS

SINGLE FILE CONCORDANCE

CASE SENSITIVE

EXCLUDES OCCURRENCES IN FIRST 3
PAGES

WORD RANGES @ BOTTOM OF PAGE

* * 1 * *

1 [3] 122:20; 169:4, 11
 1,200 [1] 149:7
 10 [4] 108:9; 112:17; 116:13; 118:23
 100 [3] 112:24; 153:2; 174:12
 1000 [2] 114:1, 2
 103 [1] 104:10
 107 [1] 104:11
 13 [1] 151:6
 13.8 [9] 141:25; 142:7; 150:24; 151:20;
 167:25; 181:3, 16
 14 [5] 142:4; 154:22; 167:25; 184:24
 15 [2] 109:25; 116:14
 150 [1] 112:15
 16th [1] 184:20
 18 [2] 141:25; 142:4
 1960s [1] 138:14
 1962 [1] 126:19
 1965 [2] 122:20; 126:19
 1969 [1] 139:20
 1975 [2] 122:4; 139:22
 1980s [2] 120:18; 162:6
 1981 [9] 134:25; 135:3, 12; 170:13, 25; 177:7;
 179:22
 1982 [1] 177:7
 1988 [16] 108:2, 13, 19; 140:5; 141:25; 143:4;
 156:18; 159:19; 161:24; 163:9; 164:5; 165:24,
 25; 170:25; 181:15
 1992 [5] 114:17, 20; 128:5; 129:4, 7
 1993 [1] 184:20
 1998 [1] 184:24

* * 2 * *

2 [5] 110:11; 141:10, 12, 25; 169:4
 2,000 [11] 113:7; 114:2, 6, 18; 147:10, 19;
 148:7, 23; 149:4, 8; 174:1
 2,590 [1] 114:13
 21.1 [1] 110:5
 2100 [1] 155:17
 216 [1] 141:11
 22 [1] 143:4
 23 [2] 156:12; 165:22
 23.0 [1] 181:17
 2350 [2] 112:4; 113:4
 2352 [2] 129:2, 7
 24-hour [1] 155:16
 2590 [1] 114:7
 26 [8] 104:7; 114:21; 125:14; 154:13; 156:11;
 165:22; 175:10, 22
 26.0 [6] 151:6, 22; 152:12, 22; 155:20
 29 [1] 106:19
 2nd [2] 140:5; 165:19

* * 3 * *

3 [2] 145:18, 21
 30 [1] 106:6
 3080 [1] 174:19
 360 [2] 113:6; 129:9
 39.6 [6] 142:13, 15, 21; 151:22; 152:11;
 181:17
 3rd [1] 142:18

* * 4 * *

4 [3] 104:6; 145:18, 21
 40 [11] 106:5; 112:1, 2; 113:2, 3, 5; 125:14;
 135:22; 137:8; 170:20, 25
 41 [2] 142:15, 22
 4300 [2] 127:25; 128:5
 45 [3] 119:4; 178:6, 7
 4590 [1] 174:22
 4590 [1] 114:4
 460 [1] 129:9
 49 [1] 127:17
 4980 [1] 113:16
 4th [7] 150:13; 152:20; 153:18; 156:18;
 158:14; 167:25; 181:15

* * 5 * *

5 [7] 145:18, 21, 22; 165:24, 25
 5-2-88 [1] 142:3
 5-3-88 [1] 142:23
 5-4 [5] 152:8; 155:13; 157:12, 21; 159:8
 5-5 [1] 182:5
 50 [10] 109:25; 115:18, 21; 116:20; 135:23;
 137:8; 168:9; 170:20, 25
 54 [2] 142:15, 22
 5800 [1] 112:2
 5880 [2] 111:24; 113:17
 5th [6] 159:19; 163:9, 25; 164:5; 165:20;
 182:5

* * 6 * *

6 [1] 128:5
 60 [1] 176:21
 650 [2] 112:13; 173:2
 69 [1] 122:20
 60 [1] 108:2

* * 7 * *

7,670 [1] 174:5
 7.6 [3] 156:7; 181:3, 16
 70s [1] 115:6
 71 [1] 179:5
 75 [1] 106:22
 7570 [4] 114:20; 127:19, 24
 7600 [1] 174:18
 7:30 [1] 156:24
 7:46 [1] 155:21
 7:47 [3] 182:10, 25

* * 8 * *

8.5 [3] 150:17; 154:14, 22
 8.8 [10] 150:19, 20, 24; 151:20; 152:8, 20, 21;
 155:20; 156:7; 181:3
 80 [5] 135:14; 136:13, 16; 170:14
 800 [4] 112:16, 18, 25; 149:7
 84 [2] 111:21, 23
 88 [3] 150:13; 158:14; 165:20
 880 [2] 147:6, 18
 880 [1] 127:9
 89 [2] 104:8; 152:20
 8:30 [1] 146:4

* * 9 * *

900 [12] 112:6, 8, 9, 25; 113:2, 5, 17; 114:9;
 125:9; 127:5; 129:3; 173:22
 95 [4] 135:15; 137:3; 167:25; 170:14
 96 [1] 104:9
 9:55 [1] 182:11

* * A * *

able [3] 120:8; 174:14; 175:6
 abnormal [1] 161:13
 abnormality [1] 167:25
 absolute [1] 112:3
 Absolutely [3] 144:24; 163:1; 167:18
 absolutely [1] 109:25
 Academy [1] 118:19
 academy [1] 119:1
 accepted [4] 132:22; 171:23, 25; 177:25
 account [1] 163:2
 accurate [4] 125:4, 12; 126:20; 159:24
 accused [3] 120:25; 121:7; 159:2
 acidosis [2] 134:6, 8
 action [1] 184:17
 activate [1] 141:14
 activities [1] 166:10
 activity [4] 141:1, 4, 10; 182:8
 actual [4] 112:19; 141:11; 153:20; 175:1
 adapt [1] 165:16
 addition [1] 107:14
 additional [3] 112:24; 134:25; 167:25
 addressed [1] 132:21
 adequate [4] 150:7; 165:13; 167:14; 177:21
 adequately [1] 165:16
 adjusted [1] 113:16
 admission [2] 107:14; 108:18
 admit [2] 134:25; 167:25
 Admittedly [1] 112:25
 Advances [2] 122:20; 123:10
 advised [2] 153:17, 18
 advocate [2] 170:10; 183:9
 affects [2] 157:7; 183:17
 affixed [1] 184:19
 aforesaid [2] 184:7, 12
 afraid [1] 170:17
 afternoon [1] 161:4
 age [4] 105:2; 108:2; 116:6, 18
 agent [1] 123:25
 agree [17] 109:25; 111:13; 133:12; 139:18;
 144:6, 9; 145:11, 13; 151:1; 152:7, 15; 156:21;
 162:21; 163:7; 165:5, 14, 15
 agreement [1] 132:12
 agrees [1] 159:25
 alert [5] 163:11, 13; 165:24, 25; 167:25
 alive [1] 116:21
 allegation [1] 109:22
 alleged [2] 132:21; 136:23
 allow [2] 161:5; 164:14
 allowing [1] 141:7
 alluded [1] 175:9
 alone [6] 125:23; 134:25; 164:6, 10, 15, 23
 amount [8] 109:25; 113:22, 24; 114:13;
 128:11; 150:7; 170:25
 analyses [1] 156:24
 analysis [5] 134:25; 135:2; 149:9; 155:9;
 169:7
 anatomically [2] 183:13, 15
 anatomy [3] 140:17; 183:16, 18
 anemia [10] 109:25; 154:25; 155:6; 165:16,
 19, 25
 anemic [6] 154:15, 17, 18; 155:2; 156:21;
 167:25

anesthesia [1] 146:3
 angina [1] 168:5
 angiography [1] 135:13
 answer [31] 115:14; 116:23; 117:11, 12, 18; 128:22, 23; 134:25; 140:16; 141:8, 25; 143:1; 155:4; 165:1; 169:24; 170:6, 17, 19, 21, 22, 23, 24, 25; 173:5, 7, 15, 16; 176:1; 177:14; 183:14
 answered [1] 149:11
 anterior [1] 135:19
 antibody [1] 145:22
 anticipate [2] 133:13; 137:16
 anticipated [1] 137:13
 Anyhow [1] 145:25
 anywhere [2] 153:14; 155:1
 aorta [3] 136:9, 10
 apologies [1] 150:20
 apparently [2] 165:25; 182:25
 appears [2] 146:7; 149:5
 appropriate [1] 142:21
 appropriately [5] 129:20; 167:9, 13, 14; 182:17
 approximately [6] 109:25; 115:18; 119:4; 137:8; 165:5; 175:13
 Apresoline [1] 139:5
 April [1] 143:4
 area [6] 112:15; 117:8, 25; 166:20
 areas [1] 172:7
 arrived [1] 148:12
 arrives [1] 165:25
 arrows [1] 125:10
 Art [2] 122:16; 123:12
 Arter [3] 120:14, 19, 25
 arterial [2] 159:25
 arteries [21] 108:11, 17; 116:3; 124:13; 134:25; 135:20; 136:6, 11; 137:5, 22; 140:4; 142:25; 170:13, 16, 20, 25; 177:6, 8, 10; 183:5
 arterio [1] 177:5
 arteriosclerotic [1] 177:2
 artery [18] 108:15; 116:2, 5, 15; 135:18, 22; 136:2; 137:23; 143:8; 168:23; 169:18; 170:5, 25; 172:17; 176:19; 179:22
 artistically [1] 125:12
 aspects [3] 109:8, 14; 143:12
 assessment [5] 133:5; 157:5; 162:19; 164:2, 12
 assigned [1] 130:17
 Assistant [2] 106:9; 171:13
 associated [3] 111:5; 133:3; 142:25
 assume [5] 134:25; 135:1; 144:16; 147:17; 159:25
 assuming [3] 165:25; 175:21; 182:25
 asterisk [1] 122:19
 asymptomatic [2] 170:11; 177:10
 atrial [3] 140:23; 141:1, 2
 attack [1] 124:16
 attempting [2] 110:22; 111:11
 attention [3] 142:3; 169:10; 182:25
 attorney [1] 184:16
 attorneys [2] 120:11; 177:25
 attribute [2] 146:21; 167:20
 autopsy [12] 115:17; 134:14; 168:11, 12; 169:17; 170:9; 176:18; 177:5, 9; 179:11; 183:6, 13
 AV [6] 140:10, 13, 14; 141:2, 13, 25
 average [3] 179:7, 8, 9
 await [1] 160:3
 aware [6] 109:1; 159:14, 25; 165:1, 3

* * B * *

background [1] 172:13
 balance [4] 114:7, 12; 127:18; 174:22
 Based [2] 164:19, 22
 based [15] 115:15, 25; 116:11; 143:14; 147:5; 165:18, 25; 169:16; 173:2, 7; 175:4, 18; 176:3, 4
 Basically [1] 165:9
 basis [6] 111:21; 117:1, 13, 15, 18; 170:9
 beaker [6] 113:8; 114:16; 125:17; 126:1, 3; 127:1
 beat [1] 182:1
 beats [3] 167:25; 182:2, 8
 becoming [1] 158:24
 begins [1] 174:3
 behalf [4] 119:22; 120:1, 25; 148:4
 behind [2] 166:9; 178:10
 believe [14] 109:25; 115:15; 118:24; 138:4, 10, 14; 142:25; 149:1, 12; 153:17; 158:6; 167:25; 177:25; 182:25
 believed [2] 129:24; 141:22
 benign [1] 139:17
 beside [1] 109:25
 besides [1] 166:6
 beta [1] 139:2
 bigger [1] 180:6
 bilateral [1] 145:21
 Bill [1] 160:7
 bit [3] 141:18; 142:6; 168:3
 bizarre [1] 145:4
 blame [1] 131:21
 blaming [3] 131:19; 167:19
 bleeding [4] 168:8, 10, 11, 13
 block [5] 140:11, 13, 14; 141:13, 25
 blockage [2] 136:16; 137:8
 blocked [4] 136:13; 137:3; 170:16, 20
 blocker [2] 139:2, 4
 blood [145] 109:10, 12, 19, 24, 25; 111:3, 5, 15, 17, 19; 112:4, 6, 8, 9, 13, 19; 113:2, 3, 4, 6, 7, 8, 18, 21, 22, 24; 114:9, 14, 18; 122:22; 123:20, 25; 124:8, 13, 14; 125:9, 11, 20; 126:9; 127:1, 14, 22; 128:11, 17, 24; 129:2, 3, 4, 5, 13, 25; 130:7, 12; 131:7; 133:6; 134:7, 11; 136:17, 23; 138:5, 24, 25; 139:6, 7; 141:4, 7, 25; 142:3, 8, 11, 13, 15, 25; 143:8; 147:3, 7, 10, 15, 18; 148:8; 150:2, 6, 14; 151:4; 152:15, 22; 153:4, 6, 7, 18, 20, 25; 154:11, 19, 21; 155:10; 156:4, 6, 16, 24; 157:2, 7, 11, 25; 162:10, 23; 165:10, 12, 16, 25; 167:11, 15, 25; 168:1, 16, 21; 173:2, 10, 12, 13, 22, 25; 174:1; 175:1, 3, 7; 176:7; 177:16; 180:4, 6; 181:7, 10, 21, 23; 182:2, 21
 blown [1] 142:1
 blue [2] 125:10, 11
 Board [3] 106:6; 130:19; 171:17
 boards [1] 122:5
 bodies [1] 141:25
 bodily [1] 164:2
 body [23] 111:22; 113:9; 114:19; 122:22; 134:1; 141:25; 142:25; 150:6; 163:20; 165:10, 13; 177:17, 18, 22; 179:14, 15, 20, 23; 182:21
 BONEZZI [11] 110:16; 121:13, 17, 21; 122:2, 7; 131:9; 151:12; 160:6; 161:2; 165:25
 Bonezzi [3] 104:8; 110:14; 160:7
 Bowl [13] 147:25; 148:4, 7, 22; 149:5, 6, 9, 14; 159:25
 box [1] 141:25
 brain [5] 108:12; 136:12; 163:19; 165:25; 168:4
 brains [1] 136:7
 branch [1] 135:21

branches [1] 170:25
 break [1] 177:25
 breath [1] 168:5
 brief [2] 140:17; 160:9
 briefly [1] 107:24
 brings [1] 112:25
 broad [1] 172:15
 bruit [1] 135:13
 build [1] 130:12
 business [3] 117:13, 14, 17
 bypass [3] 169:18; 170:5, 8

* * C * *

CABG [1] 170:5
 Calan [1] 139:4
 calcium [1] 139:3
 calculate [1] 127:21
 calculated [1] 109:25
 calculation [1] 126:21
 calculations [1] 127:20
 call [8] 129:25; 130:7; 134:20; 140:19; 152:8; 154:1, 9; 182:25
 calls [1] 182:21
 Campbell [2] 184:3, 22
 candidate [4] 169:17; 170:5, 7, 9
 capable [1] 164:23
 capably [1] 167:12
 capacity [6] 142:8; 156:6; 165:4, 5, 12, 25
 Capoten [1] 139:5
 captain [1] 140:19
 caption [1] 184:15
 car [1] 141:25
 Cardiac [1] 170:6
 cardiac [17] 109:25; 134:3, 25; 135:17; 140:17; 161:12, 14, 20; 165:2, 11; 169:24; 170:25; 176:23; 183:10, 20
 cardiologic [1] 161:16
 cardiologist [9] 106:4, 6; 124:7; 161:17; 163:15; 172:9, 10, 11, 12
 cardiology [3] 171:9, 18, 19
 cardiovascular [1] 172:14
 Care [1] 106:18
 care [32] 106:20, 25; 107:4; 109:1, 8, 22; 117:22; 118:1, 22; 119:25; 121:8; 129:17, 20; 130:15; 132:9, 17; 144:8, 15; 161:6; 162:16; 167:12, 20, 23, 24; 171:22, 25; 177:25
 careful [1] 156:22
 carotid [14] 108:11, 14; 135:13, 15, 16; 136:6, 11; 137:3, 22; 140:3; 143:7; 170:13, 25; 177:6
 carotids [1] 142:25
 carried [2] 147:16; 166:5
 carries [1] 124:1
 carry [2] 128:18; 142:8
 carrying [11] 124:9; 141:25; 150:6; 156:6; 165:4, 5, 12, 25; 177:16, 17
 Case [1] 106:10
 case [29] 107:2, 8, 16, 20; 109:1, 2, 3, 9, 22, 25; 111:4; 117:23; 119:7; 123:7; 132:20; 134:25; 135:2; 142:25; 153:23; 167:9; 168:16; 169:8; 171:21, 22; 172:1; 175:17; 177:23; 182:25
 cases [20] 119:17, 18, 21, 22, 24; 120:4, 5, 9, 14, 15, 17, 20, 24; 121:1, 6, 7, 9; 124:12; 167:6, 7
 catheterization [1] 108:15
 catheterization [5] 135:17; 170:25; 172:21; 177:8
 caused [10] 144:1; 152:9, 13, 16; 159:22, 25; 162:1; 167:24, 25; 182:25
 cautious [1] 142:25

cc [36] 111:24; 112:6, 13, 15, 25; 113:2, 4, 7, 17; 114:1, 2, 3, 7, 9, 13, 18; 125:9; 127:6; 128:5; 129:3, 4; 147:6, 10, 18, 19; 148:8, 23; 149:7, 8; 153:2; 173:22; 174:5, 12, 18, 19, 22
 cell [2] 141:25
 cells [28] 109:24; 111:3, 17; 112:3, 4, 8; 113:3, 5, 7; 114:14, 18; 128:11, 17, 24; 129:3, 4, 5; 142:12, 13; 154:19, 21; 167:25; 173:25; 174:1; 175:1, 7; 177:16
 cellular [1] 111:23
 centrifuges [1] 142:11
 certainty [3] 109:25; 176:4; 177:25
 CERTIFICATE [1] 184:2
 certified [6] 105:6; 106:6; 130:20; 161:16; 171:8, 17
 certify [2] 184:4, 13
 chairman [1] 106:20
 chance [2] 115:18, 22
 change [2] 144:1; 165:25
 changed [3] 126:22; 127:11; 128:7
 channel [1] 139:3
 characteristic [1] 182:16
 charge [1] 130:4
 chart [10] 107:12; 126:25; 135:7; 144:21; 148:19; 150:12; 152:4; 154:7; 155:5; 175:5
 chest [4] 134:25; 168:5
 choose [1] 159:25
 chronic [2] 108:23; 109:6
 circuit [1] 141:3
 circulate [1] 136:7
 circulated [1] 182:2
 circulating [9] 111:15, 17; 113:16; 122:22; 125:14, 15; 127:14, 22; 165:12
 circulation [7] 142:25; 163:19; 170:10, 25; 177:15; 182:16
 circulatory [1] 140:3
 circumflex [1] 135:21
 city [2] 117:25
 Civil [1] 105:5
 classified [5] 142:7, 16; 150:18, 20; 154:14
 clear [5] 123:19; 125:19; 132:14; 133:1; 170:25
 cleared [1] 134:25
 clearing [4] 132:16; 134:25; 137:12; 141:25
 Cleveland [8] 134:25; 135:3; 136:3; 166:16; 167:6; 170:25; 184:19
 Clinic [5] 134:25; 135:3; 136:3; 170:25
 Clinical [1] 106:9
 clinical [7] 106:23; 151:25; 162:24; 163:3; 164:13; 165:25; 170:1
 clock [1] 155:16
 clogged [1] 124:13
 Cold [1] 168:6
 color [8] 113:12; 124:21; 125:7, 19, 20, 23; 126:1, 2
 colors [1] 125:4
 combination [1] 138:2
 comfortable [1] 163:22
 coming [3] 117:22; 125:10; 173:11
 comments [1] 167:25
 Commission [1] 184:24
 Committee [1] 106:21
 committee [5] 118:18, 20, 23, 25; 119:2
 committees [2] 118:5; 121:11
 Company [3] 121:20; 122:1, 6
 company [2] 123:10, 11
 compare [1] 179:6
 compared [2] 141:12; 167:25
 compensate [1] 167:25
 completely [1] 170:16
 complex [1] 110:24

complications [2] 106:2; 172:19
 composition [1] 142:14
 comprehensive [1] 143:5
 computer [1] 184:9
 concentrate [1] 146:24
 concerned [6] 131:15; 145:14; 147:11, 20; 163:9; 165:25
 Concerning [1] 169:7
 concerning [4] 119:10; 153:16; 154:5; 159:8
 concerns [1] 142:2
 conclude [1] 151:19
 concluded [1] 148:9
 conclusion [4] 146:9; 151:14; 163:5; 165:25
 conclusions [1] 161:5
 condition [8] 133:10; 139:16, 17; 159:8; 167:13, 25; 181:1, 18
 conditions [8] 107:1, 5, 25; 179:13, 18, 21, 24; 180:3
 conduct [1] 120:5
 conduction [1] 141:7
 confined [1] 136:22
 confinement [1] 165:19
 confused [5] 158:6; 159:11, 17, 23, 25
 confusion [5] 158:3; 159:25; 167:25; 168:4
 congenital [1] 172:18
 Congestion [1] 168:4
 congestion [1] 109:20
 conjunction [1] 108:14
 connection [4] 115:3, 8; 132:23; 165:25
 conscious [1] 182:25
 consider [6] 142:25; 147:11, 21, 24; 167:25
 considerable [2] 165:9; 177:9
 considered [2] 142:25; 167:25
 consistent [2] 159:4, 5
 Constance [2] 184:3, 22
 consultant [1] 117:23
 consultation [5] 135:7; 138:16; 142:25; 143:4; 153:14
 consume [1] 174:14
 consumed [1] 174:13
 contact [2] 166:8; 167:25
 contain [1] 123:22
 contained [1] 153:4
 containing [1] 125:11
 context [1] 117:12
 continual [1] 156:15
 continue [3] 113:12, 14; 132:25
 continued [3] 108:4; 167:15; 178:11
 continuing [3] 118:1; 150:2; 162:7
 contract [1] 140:22
 contraction [1] 141:5
 contraindication [1] 181:6
 control [6] 108:21; 109:16, 19; 131:24; 138:23; 139:6
 Controlled [1] 180:6
 controlled [3] 134:2, 20; 167:16
 controversy [1] 161:24
 conversation [5] 144:25; 154:4; 158:17; 159:14; 169:22
 copied [1] 122:24
 copy [5] 167:3; 170:25
 corner [2] 123:11, 12
 Coronary [1] 106:18
 coronary [30] 108:16; 116:2, 3, 5, 14, 15, 18; 134:25; 135:18, 19, 21, 22; 136:2; 137:5, 22; 159:25; 168:23; 169:18; 170:5, 10, 25; 172:17; 176:19; 177:8, 10; 179:22; 182:25
 corrected [2] 141:25; 142:19
 correctly [1] 115:4
 correlates [1] 165:25
 counsel [1] 184:16

count [8] 130:13; 147:15; 153:18, 20; 154:11; 157:25; 168:21; 181:23
 country [2] 116:13; 176:22
 counts [1] 181:3
 County [2] 110:6; 184:2
 course [34] 107:12; 108:23; 109:2, 14, 17, 18, 25; 111:4; 113:15; 115:15; 116:3; 125:7; 128:13; 129:22; 132:1; 134:15, 21, 25; 141:25; 142:12, 25; 146:6, 19; 151:17; 152:19; 159:25; 168:17; 172:15, 25; 177:9; 180:4; 182:7
 court [1] 116:25
 covered [1] 145:24
 covers [1] 135:9
 create [1] 179:14
 credence [1] 159:25
 criteria [1] 162:22
 critical [3] 106:20; 125:16; 142:25
 criticisms [1] 136:22
 CROSS-EXAMINATION [2] 161:1; 178:1
 Cross-examination [2] 104:7, 8
 cross-examine [1] 110:9
 current [1] 141:7
 cut [1] 182:18
 cutting [1] 113:25
 Cuyahoga [2] 110:5; 184:2

* * D * *

data [4] 115:17; 163:4; 165:25; 169:17
 date [4] 142:17; 143:23; 144:1; 155:12
 dated [1] 108:8
 daughter [3] 122:16; 123:8; 126:15
 day [23] 114:1, 2; 130:11; 139:10, 14, 15; 141:11; 142:19; 144:15; 149:20, 23; 153:24; 155:13, 15; 156:2; 159:8, 19; 164:5; 174:18; 179:1, 2; 182:5; 184:20
 days [3] 165:22; 174:2, 12
 Deaconess [7] 108:19; 135:7; 140:6; 142:16; 150:21; 155:8; 182:25
 deal [1] 134:19
 dealing [2] 162:14; 163:15
 death [18] 109:12, 25; 146:21, 25; 159:19, 25; 167:21, 24; 168:20, 21; 176:11, 20, 23; 177:2, 3; 182:5
 decide [2] 109:15; 167:25
 decompressive [1] 145:20
 decreased [2] 157:7; 170:13
 dedicated [1] 139:6
 dedication [1] 172:13
 deep [1] 173:1
 defects [1] 142:25
 defend [1] 120:20
 defendant [2] 105:3; 119:7
 defended [2] 120:22; 167:7
 defending [1] 121:2
 defense [2] 159:25
 define [1] 117:18
 Definitely [1] 130:24
 definition [2] 142:25; 159:12
 degree [8] 109:25; 116:18; 140:13, 14; 141:13; 166:6; 176:3; 177:25
 delay [2] 141:6, 15
 deliver [1] 165:10
 delivering [1] 165:10
 delivery [1] 181:22
 demand [4] 142:25; 179:23; 182:19
 demands [3] 142:25; 179:14, 20
 demonstrates [1] 109:25
 demonstrating [1] 162:24
 denominator [1] 127:19
 departure [1] 132:21

depend [1] 177:18
 depicting [1] 127:2
 deposition [17] 107:21; 109:25; 110:4, 12; 116:24; 126:13, 22, 24; 127:8, 25; 128:3; 142:25; 147:7; 148:2; 158:5; 159:23; 184:13
 depositions [1] 107:15
 deprivation [2] 159:1, 5
 derived [1] 123:2
 descending [1] 135:19
 described [6] 142:15; 151:5; 152:17; 153:25; 156:10; 159:25
 desirability [1] 163:21
 despite [1] 108:5
 detecting [1] 134:25
 determine [1] 163:10
 determined [1] 147:6
 determining [1] 162:22
 develop [2] 134:6; 182:4
 developed [1] 139:21
 development [1] 134:7
 diabetes [20] 108:8, 22; 109:5, 18; 116:7; 133:7, 19, 20, 21; 134:2, 3, 25; 137:21; 139:21; 142:25; 167:8, 11; 179:6, 13, 23
 diabetic [2] 139:17; 143:7
 diagnostic [2] 134:25; 135:4
 diagram [24] 111:1; 113:12; 122:12, 13, 14, 15, 24; 123:1, 5, 6, 13; 124:19, 20; 126:1, 6, 8, 9; 127:13, 21; 128:20; 150:11; 153:1; 170:25; 175:9
 dictated [4] 112:12; 135:8; 138:15; 142:25
 die [5] 124:4, 6; 159:25; 176:22; 182:11
 died [6] 109:24; 114:23; 164:6; 176:17, 20; 182:25
 difference [5] 159:25; 167:25; 168:17, 20; 177:13
 difficult [1] 109:18
 digest [1] 137:1
 diluted [2] 125:5, 6
 diminishment [1] 165:23
 DIRECT [1] 171:1
 Direct [1] 104:6
 direct [3] 105:4; 142:3; 169:10
 direction [1] 184:10
 Director [1] 106:18
 disability [1] 108:4
 disagreement [3] 142:6; 149:2, 3
 disc [3] 145:17, 21, 23
 disciplines [1] 172:20
 discuss [1] 130:1
 discussed [1] 154:25
 disease [17] 106:2; 117:9; 134:25; 136:2; 168:23; 172:17, 18; 176:18, 19, 22; 177:3, 5, 6, 7; 182:25
 diseases [1] 172:15
 distant [1] 170:25
 distorting [1] 170:17
 divided [1] 114:20
 divides [1] 142:11
 Doctor [94] 106:3, 8, 23; 107:8, 23; 108:25; 109:21, 23, 25; 110:18; 112:7; 113:1, 14, 19; 115:1, 14; 117:14; 121:9; 122:11; 123:14; 126:8, 24; 128:3, 4; 130:18; 132:8; 137:2, 19; 138:9; 140:12; 142:1, 5, 25; 143:13; 145:10; 147:4, 8; 148:17; 149:19; 150:10, 20; 152:7; 154:24; 155:10, 25; 157:9; 158:1, 9, 10; 159:6, 18, 25; 165:25; 167:1, 5, 8, 25; 168:1, 8, 25; 169:3; 170:22, 23, 25; 171:3, 10, 16, 20; 172:5; 173:8, 16, 18; 174:6, 16; 175:10, 18; 176:3, 7, 10; 177:2, 11, 23, 25; 181:12, 14; 183:2, 23, 25

doctor [11] 107:19; 117:21, 22; 120:4; 121:7; 138:11; 159:25; 164:18; 166:7; 182:25
 doctors [5] 109:2; 120:20; 167:25; 183:4
 document [1] 110:21
 doesn't [4] 134:20; 162:16; 166:17; 182:22
 Don [2] 136:20; 178:3
 dozen [1] 121:10
 Dr [157] 107:13, 20; 109:1, 2, 3, 4, 6, 7, 9, 13, 14, 25; 110:3, 9; 111:8; 112:10; 113:11; 115:3, 4; 117:15, 24; 118:8, 11, 13, 15, 17, 24; 119:4, 6, 7, 8, 14, 15; 121:2; 129:12, 16, 17, 24; 130:1, 5, 7, 9, 11, 19; 131:19; 132:4, 13, 20; 134:25; 135:2, 8, 24; 136:22; 137:13; 138:11, 18; 141:25; 142:25; 143:2, 3, 10; 144:6, 7, 10; 145:25; 147:25; 148:4, 5, 7, 22; 149:5, 6, 9, 14; 151:19; 153:13, 15, 16, 17, 19, 24; 154:1, 4, 5, 9, 10, 11; 155:1, 5; 157:10; 159:7, 12, 14, 15, 16, 20, 25; 160:4, 6, 7; 161:11, 23; 166:4, 6, 23; 167:9, 10, 12, 13, 14, 19, 20, 21, 22, 23, 25; 171:22, 25; 173:1, 6, 8; 177:11, 25; 178:3, 6; 182:5, 24, 25
 drapes [1] 112:21
 draw [2] 151:14; 161:5
 drawn [1] 165:25
 drop [18] 130:10; 142:25; 150:23, 24; 151:9; 152:9, 12, 17; 153:7, 16; 154:13; 156:5, 15, 16; 162:8; 165:25; 168:21
 dropped [9] 125:13; 151:6, 22; 152:11; 153:25; 156:6, 11; 165:21; 181:17
 dropping [1] 157:1
 drugs [1] 167:25
 due [1] 168:5
 duly [2] 105:5; 184:6
 duties [2] 106:11; 150:9
 duty [2] 130:17; 177:15

* * E * *

early [5] 120:18; 136:2; 138:14; 163:25; 166:11
 earmarked [1] 165:23
 echocardiogram [1] 134:25
 echocardiograms [1] 172:24
 effect [1] 116:10
 effort [1] 119:25
 Eight [1] 116:19
 eight [6] 108:20; 116:17; 159:25; 165:21; 175:14, 21
 EKG [10] 140:6, 9; 167:16; 182:5, 7, 13, 24, 25
 elaborate [1] 170:8
 elaborated [1] 170:6
 elective [6] 141:17, 23; 143:13, 15, 21
 Electrical [1] 182:8
 electrical [7] 140:21; 141:1, 3, 4, 7, 10, 14
 electrocardiogram [11] 134:25; 141:11; 182:16, 24, 25
 electrocardiograms [1] 172:24
 elements [3] 142:12; 157:5
 eliminate [1] 157:17
 eliminating [1] 157:21
 embolism [2] 159:25
 emergency [2] 118:22; 143:19
 enacted [1] 110:6
 end [2] 134:20; 166:11
 endarterectomy [1] 142:25
 ended [1] 128:17
 energy [3] 141:25; 177:18, 19
 enlarged [12] 134:14, 15, 16, 25; 150:11; 158:11; 159:7, 19; 179:10, 12

enlargement [2] 134:25
 entertain [1] 170:7
 entirety [1] 177:21
 entry [1] 145:3
 equaling [1] 149:8
 ergo [1] 124:14
 error [1] 112:17
 established [2] 118:1; 119:3
 estimate [2] 129:5; 149:3
 estimated [6] 112:10, 13, 23, 24; 113:18; 173:2
 estimating [1] 112:15
 Ethics [1] 106:21
 evaluate [2] 133:2; 177:20
 evaluating [1] 172:23
 evaluation [4] 109:8; 135:13; 144:17; 159:25
 evening [2] 153:18; 155:18
 event [2] 108:13; 176:24
 events [1] 182:25
 everybody [1] 159:2
 evidence [8] 111:14; 132:3; 134:25; 163:18; 168:9, 11; 176:24; 179:12
 evidenced [1] 165:25
 evolved [1] 132:1
 Exactly [2] 152:14; 163:8
 exactly [2] 175:3; 182:12
 EXAMINATION [3] 166:1; 171:1; 183:1
 examination [8] 104:6, 9, 11; 105:4; 156:4; 165:25; 167:3; 168:7
 examined [2] 105:6; 134:25
 example [7] 124:13; 133:18; 142:25; 147:17; 158:21; 167:25
 excellent [1] 167:10
 exception [1] 160:2
 excess [1] 114:3
 Exchange [3] 121:20; 122:1, 6
 exchanged [1] 117:3
 excision [1] 145:21
 Excuse [1] 113:10
 excuse [1] 138:9
 exercise [1] 114:24
 Exhibit [2] 169:4, 11
 exhibited [1] 159:21
 exhibits [1] 145:4
 existed [2] 161:24
 existence [1] 137:17
 expect [6] 133:13; 168:2, 3, 6, 9, 11
 expectancy [1] 116:10
 expected [1] 109:25
 expectency [6] 115:2, 12; 116:4, 7, 8; 177:1
 expecting [1] 116:16
 experience [3] 172:13; 175:19; 176:5
 experienced [1] 130:23
 experiences [1] 173:3
 experiencing [2] 108:24; 109:7
 expert [7] 109:9; 111:8; 132:20; 136:21; 148:4; 159:25; 167:22
 expertise [3] 172:7; 175:19; 176:4
 experts [3] 107:16; 119:13; 159:25
 expiration [1] 184:24
 extensive [1] 134:23
 extent [1] 177:5
 extra [3] 111:23; 134:7, 8

* * F * *

fact [10] 109:5; 122:21; 130:8; 131:13; 134:25; 135:3; 136:21; 155:9; 162:6; 167:25
 factor [1] 152:16
 factored [1] 114:11
 factors [2] 137:18, 19

facts [1] 170:17
 factually [1] 134:25
 failure [4] 134:16; 136:23; 172:19; 182:4
 Fairview [5] 106:12, 17; 171:11; 178:16; 182:25
 fall [1] 167:25
 familiar [3] 142:2; 161:23; 174:8
 family [2] 106:14; 178:4
 fashion [6] 141:7; 165:25; 167:25; 177:10; 182:16; 183:4
 faster [2] 141:4; 181:25
 fault [1] 177:25
 feel [1] 134:25
 feeling [1] 144:3
 feet [1] 168:6
 fellow [1] 149:16
 felt [6] 111:8; 130:5; 131:11; 141:18; 159:15; 164:22
 fewer [1] 175:7
 field [2] 112:22; 145:23
 figure [9] 112:2, 22; 123:2; 126:12; 127:17; 141:11; 148:13, 19; 167:25
 figured [2] 114:1; 148:18
 figures [2] 110:25; 175:4
 find [31] 134:25; 136:3; 141:25; 142:4, 7, 15; 143:3, 19; 144:10; 145:3; 146:17; 148:20; 150:12, 17; 151:3, 6; 152:11; 155:8; 156:4, 5, 25; 158:14; 168:7, 9, 11, 14; 177:25; 182:13
 finding [2] 182:25
 findings [1] 168:13
 finish [1] 148:16
 firm [5] 120:19, 24; 121:1, 12; 134:25
 First [2] 123:14; 170:8
 first [19] 105:5; 109:25; 117:14; 124:22; 126:3; 133:18; 135:9; 139:21; 140:13, 14; 141:13; 144:20; 155:19; 170:25; 174:12; 177:6; 178:8; 182:25; 184:6
 five [10] 120:7; 126:14, 15, 18; 139:7, 10, 14; 167:25; 170:25
 fluid [17] 109:25; 111:23; 114:6, 7, 10, 11, 12, 19; 123:15, 19, 22; 125:1; 127:18; 174:25; 175:2, 8
 fluids [10] 111:14; 131:23; 152:25; 153:2, 4, 8; 174:3, 14; 175:9; 176:9
 fold [1] 165:6
 follow [2] 141:7; 165:25
 follow-up [1] 173:12
 followed [1] 141:6
 following [2] 109:11; 170:13
 follows [3] 105:7; 135:1; 158:15
 food [1] 174:14
 foregoing [2] 184:10, 15
 forgetful [3] 158:19, 24; 159:3
 form [6] 111:12, 23; 112:3; 122:22; 142:13; 177:18
 formed [1] 115:8
 forth [4] 116:9; 117:4; 142:25; 183:18
 Found [1] 135:14
 found [7] 134:25; 153:15; 158:21; 164:7; 170:25; 177:5; 183:6
 founder [1] 106:17
 Four [1] 139:14
 four [2] 138:2; 165:5
 four-and-a-half [3] 145:11; 146:1, 8
 Frank [1] 104:2
 Frederick [1] 105:3
 frequently [1] 149:24
 friendly [1] 117:1
 friends [1] 178:14
 friendship [1] 178:11
 front [3] 135:6; 136:11; 182:25

full [1] 167:25
 function [13] 124:5, 10; 150:5; 161:12, 14, 20; 165:9, 11, 25; 177:19, 21, 22; 182:17
 functioning [4] 165:13, 25; 177:22
 functions [2] 141:3; 164:3
 fusion [1] 145:22

* * G * *

game [2] 152:1; 162:19
 gathered [1] 141:21
 gave [3] 129:3; 157:10
 generalization [1] 124:17
 generated [1] 141:12
 give [14] 109:1; 117:9; 129:13; 136:23; 140:16; 142:25; 157:1; 159:25; 165:13; 170:25; 171:21; 174:21; 182:21
 given [16] 109:10, 22, 25; 111:7, 14; 116:24; 128:4; 152:22, 25; 153:2, 8; 167:25; 174:2; 182:25; 184:7, 12
 gives [3] 114:7, 20; 136:10
 giving [3] 153:6; 176:2; 181:10
 glass [3] 124:23
 global [3] 133:5; 157:5; 162:18
 glucose [1] 167:11
 goes [5] 112:5; 135:24; 138:14; 140:21; 141:25
 grade [1] 165:16
 graft [1] 170:5
 grafts [1] 169:18
 gram [1] 165:21
 grams [1] 175:14
 graphic [1] 111:12
 graphically [1] 109:25
 great [2] 134:19; 136:4
 greater [6] 134:1; 147:13; 167:25; 182:1, 2
 ground [1] 134:25
 guess [1] 121:10
 guessing [2] 141:23; 182:25

* * H * *

Hadden [3] 120:14, 19, 25
 hadn't [1] 111:18
 half [3] 121:10; 141:6
 hand [2] 169:3; 184:19
 hands [1] 168:6
 handwriting [1] 169:5
 Hang [1] 136:25
 happens [3] 114:21; 131:25; 182:3
 happy [1] 170:25
 hard [1] 170:11
 hasn't [1] 120:9
 haven't [2] 121:14; 166:23
 health [2] 131:15; 141:25
 heard [1] 153:23
 heart [78] 106:2; 108:15; 117:9; 124:7, 9, 10, 14, 15; 134:6, 7, 8, 14, 15, 16, 21, 25; 135:3; 136:6, 10; 137:6; 140:11, 18, 20, 21; 141:1, 2, 4, 6, 13, 14, 25; 161:12; 165:15; 167:25; 168:5; 169:23; 170:7, 16, 20; 172:18, 19, 21; 176:18, 20, 22; 177:7, 22; 179:10, 12; 180:2, 5, 6; 181:18, 24; 182:3, 4, 7, 8, 9, 16, 17, 19, 21, 22; 183:14
 heartbeat [1] 140:19
 hearts [2] 134:15; 142:25
 help [11] 130:12; 157:13, 22, 24, 25; 169:23, 25; 170:2, 3, 6
 helped [1] 168:15
 helping [1] 131:18
 Hematocrit [1] 142:11

hematocrit [34] 112:1; 113:3; 114:21, 22; 125:13; 130:7, 10; 142:10, 12, 14, 21, 24, 25; 149:19; 150:13; 151:5, 22; 152:11, 17, 20, 21; 153:8; 154:13, 25; 156:9, 10, 17; 165:8, 22, 25; 175:10, 22; 181:17
 hemodynamically [2] 136:1; 170:25
 Hemoglobin [1] 123:25
 hemoglobin [37] 123:23; 141:25; 142:4, 19, 24, 25; 149:20; 150:13, 17, 23; 151:20; 152:8, 9, 17, 21; 153:7, 16; 154:14; 156:5, 16; 157:1, 11; 162:8; 165:8, 10, 21, 25; 175:12, 13, 14, 21; 181:16
 hepatitis [1] 157:17
 hereby [1] 184:4
 herein [1] 105:2
 hereinafter [1] 105:6
 hereunto [1] 184:18
 High [1] 134:11
 high [5] 141:18, 20; 143:8; 180:4, 6
 history [3] 108:18; 167:25; 168:22
 hold [2] 106:15; 124:20
 Hospital [11] 106:12, 17; 108:19; 135:7; 140:6; 155:8; 171:11, 13, 14; 182:25
 hospital [13] 106:21; 107:12, 14; 141:21; 142:2; 144:18; 150:12; 154:3, 7; 159:18; 174:5; 178:15; 179:4
 hospitals [3] 106:15; 166:17, 18
 hour [4] 144:15; 146:8; 153:2; 174:13
 hours [6] 145:11; 146:1; 159:25; 163:24, 25; 182:12
 humans [2] 165:4, 5
 hurt [1] 157:12
 Hydrochlorothiazide [1] 139:5
 hypertension [21] 108:8, 22; 109:5; 116:8; 134:9, 12, 13, 17, 20, 21, 25; 137:21; 142:25; 167:12; 172:17; 179:13, 21
 hypothetically [1] 130:18

* * I * *

I've [2] 159:4; 171:20
 I.V. [1] 176:9
 idea [2] 147:14; 178:5
 ILER [40] 109:25; 110:1; 113:10; 115:13, 23; 116:22; 136:25; 141:25; 142:1; 159:25; 160:1; 162:3, 11; 164:16, 20, 25; 165:17; 166:25; 167:2, 4, 21, 25; 169:2; 170:25; 172:2; 173:4, 14; 175:15, 25; 176:13; 177:24, 25; 178:2; 183:24
 Iler [23] 104:7, 10; 122:15; 128:21; 130:4, 15; 135:6; 136:24; 141:8; 143:1; 151:25; 158:16; 165:20, 25; 166:3, 5; 167:9, 18, 25; 168:15; 170:25; 178:3; 183:2
 illustration [1] 122:17
 immediate [4] 109:19, 25; 111:6; 173:24
 impaired [5] 130:6; 140:2; 142:25; 163:19; 168:4
 impairment [3] 142:25; 170:25; 177:18
 important [3] 162:21; 182:25
 importantly [4] 107:11; 134:21; 170:25; 172:25
 imposes [1] 167:11
 imposition [1] 165:25
 impression [1] 145:18
 improve [1] 170:11
 improved [2] 133:10; 144:4
 impulse [1] 140:21
 impulses [1] 141:14
 inappropriate [1] 159:11
 inappropriate [4] 159:11, 12, 15, 21
 inappropriateness [1] 159:21

includes [5] 172:16, 19, 20, 22, 25
 incorporate [1] 142:25
 incorporated [1] 137:18
 incorporates [1] 157:4
 increase [4] 134:1, 6; 154:22; 180:5
 indicate [3] 159:25; 163:20; 183:19
 indicated [9] 108:25; 126:9; 127:5; 159:23,
 25; 161:13; 167:5, 7; 175:22
 indication [3] 140:10; 164:3; 175:23
 indirectly [1] 154:8
 individual [2] 163:17; 165:25
 individually [1] 177:21
 Indural [1] 139:3
 inform [1] 153:19
 information [2] 115:16; 165:25
 informed [1] 143:11
 initially [1] 153:11
 injection [1] 139:24
 injections [1] 130:12
 injury [4] 108:3, 4, 6, 24
 insensible [4] 114:6, 11; 174:25
 insofar [4] 138:25; 142:21; 145:14; 154:24
 insofar [2] 131:14; 141:14
 instance [1] 135:11
 instructed [1] 154:9
 insulin [4] 134:1; 138:24; 139:16, 23
 Insurance [4] 121:20; 122:1, 6
 insured [2] 121:19, 25
 intake [11] 114:3, 10; 127:18; 174:4, 5, 9, 10,
 17, 18, 22
 intending [1] 125:25
 interested [1] 184:17
 intern [1] 166:13
 internal [5] 106:13; 135:15, 16; 171:8, 18
 internist [6] 109:17; 130:23, 25; 131:2, 25
 internship [1] 166:11
 interrupt [2] 174:6; 177:4
 interruption [1] 110:18
 intravenous [5] 114:10; 174:3, 11, 17; 175:8
 intravenously [2] 153:3; 174:13
 invoked [1] 152:1
 Involved [1] 109:19
 involved [10] 106:12; 107:16; 109:2, 3, 5, 7,
 14, 18; 116:3, 5
 Involvement [1] 116:9
 involvement [6] 108:16; 109:13; 116:19;
 134:20; 177:8, 9
 iron [1] 130:12
 irregularities [1] 135:18
 Ischemia [1] 182:15
 ischemia [7] 159:25; 182:14, 15, 24, 25
 isotope [1] 126:19
 item [1] 167:25

* * J * *

Jacobson [4] 120:15; 121:3, 8, 11
 January [1] 184:24
 John [1] 171:12
 judge [1] 132:25
 judgment [7] 147:5; 149:19; 151:25; 154:15;
 157:3, 4; 164:12
 July [1] 128:5
 jury [25] 107:8, 23; 109:3, 25; 110:20; 115:11,
 20; 123:15; 125:25; 128:10, 14, 15; 129:2;
 167:25; 171:15, 21; 172:6, 9; 175:11; 176:15;
 177:4, 14, 25

* * K * *

Kalur [2] 120:16; 121:3
 Karr [57] 107:1, 12, 14, 24; 108:1, 17; 109:4,

7, 8, 10, 14; 111:4, 20; 114:23; 115:2, 15, 17,
 21; 116:11, 18; 123:16; 126:3; 128:10, 17;
 130:6; 131:7; 132:14, 17; 133:1; 134:14;
 136:4; 137:18; 138:11; 141:11, 18; 142:2;
 143:12, 14; 147:5;
 161:6, 11, 19; 163:11; 164:6; 165:19, 25;
 167:25; 170:7; 175:5, 24; 176:17; 177:2, 25;
 178:4; 182:25
 kidneys [2] 116:9; 177:22
 kilograms [2] 111:21, 23
 knowledge [4] 106:1; 143:2; 172:22; 175:19
 knowledgeable [1] 137:17

* * L * *

L-2 [2] 145:18, 21
 L-4 [2] 145:21, 22
 lab [6] 141:25; 142:3, 16; 150:21; 151:3;
 156:15
 laboratory [6] 114:22; 155:7; 163:4; 165:25;
 167:25; 175:4
 lack [10] 116:15; 157:6; 159:22; 168:1;
 170:11; 177:12; 182:15, 25
 Lakewood [1] 171:13
 laminectomy [5] 134:23; 145:15, 16, 20;
 161:10
 large [2] 116:12; 176:19
 larger [1] 114:15
 last [5] 112:11; 114:22; 116:13; 127:13; 170:3
 late [1] 115:6
 law [2] 121:1; 167:6
 lawful [1] 105:2
 lay [1] 174:8
 lead [1] 138:3
 leading [1] 108:18
 left-hand [1] 123:12
 legal [1] 122:17
 lend [1] 147:13
 lesions [1] 135:25
 lesson [1] 140:17
 letter [1] 167:25
 level [11] 109:12; 118:19, 20; 125:20; 142:21,
 22, 25; 162:8; 165:19, 25
 levels [3] 165:8, 9, 23
 life [10] 115:1, 12; 116:4, 7, 8, 10; 141:25;
 168:17; 170:10; 177:1
 lifestyle [1] 183:18
 likelihood [1] 116:20
 liken [1] 141:25
 Likewise [2] 167:12; 178:15
 Likovic [1] 159:25
 line [3] 162:4; 170:3, 5
 lines [1] 107:17
 liquid [1] 142:12
 listed [2] 143:9; 155:17
 listen [1] 117:13
 literally [2] 117:24; 178:17
 lived [1] 115:5
 liver [1] 177:22
 living [2] 115:18, 22
 load [1] 167:11
 loses [1] 112:6
 loss [31] 109:25; 111:5; 112:13, 19; 113:18,
 21, 22, 24; 114:6, 9, 11, 12; 142:25; 147:3, 18;
 150:3; 152:15; 153:7; 168:1, 9; 173:2, 10, 12;
 174:25; 175:1; 176:7
 lost [10] 109:25; 112:9; 127:1; 129:3; 147:6,
 10; 148:7, 23; 149:7; 173:22
 lot [2] 120:9; 153:2
 low [10] 142:7, 16, 19, 24, 25; 150:21;
 165:16; 167:25

lower [4] 123:12; 141:2, 6; 158:18
 lumbar [2] 145:20, 24
 lungs [5] 109:20; 168:5, 6; 177:17, 22

* * M * *

M.D. [5] 104:4; 105:1, 3; 171:5; 184:5
 mail [1] 170:25
 mailed [1] 170:25
 main [4] 142:25; 170:15, 20; 171:18
 Mainly [2] 171:11; 174:17
 mainly [2] 116:1; 174:20
 makeup [1] 181:9
 malpractice [1] 120:20
 man [7] 116:17; 146:11; 151:23; 156:24;
 157:2; 181:9; 183:10
 management [2] 109:13, 18
 manifestation [1] 163:3
 March [1] 184:20
 marked [1] 169:4
 marks [1] 159:16
 material [1] 165:20
 matter [4] 130:8; 131:21; 162:6; 177:25
 Maynard [4] 120:15; 121:3, 8, 12
 mean [8] 117:17; 128:14; 133:1; 134:25;
 136:16; 154:17; 182:15; 183:3
 meaning [1] 170:3
 means [4] 133:2; 134:25; 154:19; 167:25
 meant [5] 110:20; 112:2; 172:10; 174:9;
 177:14
 measure [2] 149:24; 174:24
 measured [9] 109:25; 112:20, 24; 113:18;
 114:9, 22; 149:20; 174:19; 175:4
 measurement [1] 112:19
 mechanism [1] 176:21
 Med [2] 122:16; 123:12
 Medical [1] 106:18
 medical [25] 108:18; 109:8, 14, 25; 110:4, 13;
 116:25; 118:4; 119:17; 122:17, 18; 126:17;
 143:15; 144:13; 146:17; 159:16; 165:25;
 166:7; 171:25; 176:3; 177:25; 178:8, 21
 medication [8] 108:23; 138:19, 21, 23; 139:1,
 20; 167:15; 179:8
 medications [8] 106:1; 108:21; 133:8; 139:7,
 11; 143:9; 170:25
 Medicine [3] 106:10, 11; 118:19
 medicine [7] 106:13, 23; 130:3; 132:2; 152:2;
 171:9, 18
 meetings [1] 178:21
 memory [2] 134:25; 170:2
 mental [1] 177:21
 mentioned [9] 106:16; 109:5, 25; 167:9, 25;
 172:8; 177:2, 6
 merit [1] 167:7
 methods [1] 108:5
 Metropolitan [1] 171:14
 military [1] 155:16
 milliliters [1] 127:5
 mind [4] 107:23; 126:22; 127:11; 141:25
 minimal [1] 135:18
 minus [1] 113:17
 minute [12] 109:25; 128:3; 131:6; 134:25;
 137:1; 142:25; 147:20; 156:23; 157:18; 182:2
 minutes [2] 159:25; 165:21
 mishap [1] 146:15
 misrepresentation [1] 125:19
 MISS [4] 170:25; 177:25
 mistake [2] 131:3, 6
 ml [3] 111:24; 112:6; 174:1
 moment [6] 134:17; 141:25; 142:25; 147:4;
 159:25; 162:25

months [1] 170:25
 morning [10] 146:4; 155:21, 22; 156:25;
 163:25; 164:7; 165:24; 182:10, 12, 25
 mortality [1] 116:17
 motion [1] 121:23
 Move [1] 148:11
 move [4] 121:21; 137:2; 141:4
 moved [1] 166:20
 moving [2] 117:7, 24
 multiple [1] 108:17
 muscle [3] 140:22; 165:15; 182:16
 muscles [1] 113:25
 Myocardium [1] 165:15
 myocardium [2] 165:14, 15

* * N * *

name [6] 117:10; 139:2, 4; 160:7; 171:3;
 178:3
 named [1] 184:5
 narrowing [5] 134:25; 135:14, 15; 170:25
 natural [1] 168:22
 necessity [1] 163:20
 neck [2] 108:11; 136:11
 needs [2] 162:15; 172:6
 negligence [1] 119:18
 neurosurgeon [2] 142:25; 159:16
 night [6] 155:23; 156:3, 18, 25; 163:22, 23
 nine [6] 155:17, 23; 156:3, 17, 25; 181:15
 node [6] 140:24, 25; 141:1, 2, 3, 10
 non-blood [1] 111:14
 noncontaining [1] 175:2
 nonsurgical [2] 108:5; 143:11
 noon [1] 146:5
 normal [27] 134:21; 135:20; 137:6; 141:9, 12,
 25; 142:4, 9, 15, 20, 22; 154:20; 161:11, 19;
 165:11, 12, 25; 167:25; 181:23
 normally [1] 140:18
 Notary [2] 184:3, 23
 notation [1] 154:7
 Note [18] 109:25; 115:13, 23; 116:22; 162:3,
 11; 164:16, 20; 165:17; 167:21, 25; 172:2;
 173:4, 14; 175:25; 176:13; 177:24
 note [20] 112:11, 14; 122:13; 143:4; 145:8;
 158:10, 13; 159:4, 6, 8, 19; 167:25; 169:14,
 16, 20; 170:13; 173:8; 183:2
 noted [4] 110:13; 112:12; 167:25; 173:11
 notes [15] 107:13; 143:6; 144:14; 145:1, 3;
 155:3; 158:12; 159:24; 163:10, 12, 23; 167:1,
 25; 169:4; 183:3
 notice [3] 142:10, 14; 159:9
 notified [1] 182:25
 notify [1] 130:9
 Number [3] 110:11; 170:13, 15
 number [11] 111:3; 112:8; 118:23; 121:15;
 129:4; 134:25; 152:4; 167:25; 172:20; 173:25;
 175:7
 numbers [11] 111:12; 126:6, 8; 151:16, 18;
 152:1, 7; 156:20; 162:16, 19; 181:5
 Nuremberg [1] 120:17
 nurse [20] 144:14, 20; 145:3, 5; 153:23, 25;
 154:9, 12; 158:14, 20; 159:4, 24, 25; 163:12,
 23; 164:11, 13, 22; 167:25
 nurses [3] 130:9; 144:14, 25
 nursing [3] 158:10, 13; 163:10

* * O * *

o'clock [6] 155:17, 23; 156:3, 18, 25; 181:15
 oath [1] 128:4
 Objection [55] 120:2; 121:13, 17, 21; 122:2,
 3, 7; 125:21; 131:9, 10, 20; 132:18; 133:16,

22; 134:4, 13, 18, 24, 25; 136:8, 19; 137:10,
 15, 25; 138:6, 13; 139:12, 19; 140:1, 15;
 141:15, 25; 142:22, 25; 143:17, 24; 144:2;
 148:10, 24; 149:10;
 151:12, 13, 21, 24; 157:14; 159:1, 25; 178:13;
 179:16, 25; 182:6
 objection [28] 109:25; 110:2, 7, 13, 15;
 113:11, 13; 115:14, 24; 116:23; 122:10; 137:1;
 162:4, 12; 164:17, 21; 165:18; 167:22, 25;
 172:3; 173:5, 15; 175:16; 176:1, 14; 177:25
 objections [1] 160:3
 objective [1] 131:17
 obligation [2] 131:12, 24
 observing [1] 159:4
 obstruction [1] 135:23
 obtained [1] 112:8
 obviously [8] 125:11; 141:3; 142:25; 150:7;
 168:4; 174:7; 177:18, 19
 occasion [2] 106:25; 107:18
 occasions [4] 107:4; 119:9; 142:25; 167:6
 occur [1] 176:25
 occurred [5] 109:25; 113:21; 146:18, 22;
 181:15
 occurrence [1] 176:25
 occurring [1] 176:24
 offered [3] 110:3, 4, 12
 offering [1] 110:7
 offhand [3] 120:16; 154:6; 155:4
 office [2] 107:13; 184:19
 offices [1] 167:6
 Ohio [5] 105:4; 184:1, 4, 20, 23
 Okay [1] 141:25
 oid [1] 134:17
 ones [5] 116:6, 8, 10; 162:8; 165:8
 open [1] 106:19
 operate [4] 183:9, 14, 16, 17
 operated [4] 112:22; 140:4; 170:25; 177:7
 operating [3] 112:10; 173:21, 23
 operation [17] 109:25; 111:5, 16; 112:5, 12;
 114:9, 14; 133:11; 135:8; 141:22, 23; 143:3;
 165:22, 25; 167:11; 170:11; 173:22
 operations [2] 108:10; 143:8
 operative [8] 112:11, 21; 133:25; 145:8, 23;
 146:22; 173:3, 7
 Operator [1] 142:25
 opinion [41] 109:10, 23, 25; 110:3, 8; 115:8,
 11, 21; 128:7; 148:7, 23; 149:5, 6; 159:3, 25;
 161:19, 22; 165:18, 25; 167:23, 25; 168:16,
 18; 170:7; 171:21, 24; 176:11; 177:13, 25
 opinions [9] 107:10; 109:1; 110:2, 11; 116:24;
 161:5; 172:5; 176:2, 15
 opportunity [1] 110:9
 opposed [2] 133:20; 134:12
 opposite [1] 159:25
 optimum [1] 165:9
 oral [3] 139:20; 174:11, 17
 orally [3] 174:4, 14, 15
 order [5] 141:5, 19; 170:8; 181:21; 182:17
 ordered [7] 141:25; 152:22; 153:10, 11;
 182:5, 24, 25
 ordering [1] 130:11
 organ [1] 134:20
 organs [4] 177:12, 19, 22, 23
 oriented [5] 163:11, 13; 165:24, 25; 167:25
 origin [1] 170:25
 orthopedist [1] 149:15
 ought [2] 141:25; 167:25
 outcome [1] 184:17
 output [6] 114:3; 127:19; 174:4, 19, 20, 22
 outside [1] 167:25
 overall [1] 164:1

overburdening [1] 167:25
 oxygen [38] 124:1, 3, 8; 128:18; 132:5;
 141:25; 142:9, 25; 150:6; 156:6; 158:2; 159:1,
 5, 22, 25; 165:4, 5, 6, 10, 12, 25; 168:1;
 177:16, 17, 18; 181:22; 182:17, 18, 19, 21, 25

* * P * *

PAGE [1] 104:5
 page [7] 122:20; 135:9; 142:2; 143:3, 6;
 159:14; 169:11
 pain [3] 108:23; 109:7; 168:5
 pale [2] 125:13, 24
 paper [3] 109:25; 110:19; 111:1
 paragraph [3] 112:12; 135:9, 12
 parcel [1] 168:22
 pardon [1] 152:21
 part [15] 141:1, 2, 8, 25; 144:16; 158:11, 16,
 18; 159:25; 163:19; 168:22; 170:2, 6; 177:6
 parts [5] 116:13; 141:14; 142:25; 177:17
 party [1] 184:16
 pathologist [4] 169:22, 24; 170:1, 6
 Patient [2] 158:17; 159:14
 patient [91] 107:24; 109:10, 11, 13, 16, 21,
 23, 24, 25; 111:9; 112:9, 21; 115:2, 5, 12;
 117:6, 9, 21; 118:11, 13, 14; 119:10; 120:1;
 131:3, 15, 18; 132:16, 24; 133:2, 6, 12, 19, 20;
 134:2, 11, 12, 17, 22, 25; 143:7, 10; 144:3, 18,
 19, 21,
 22; 145:4; 149:21; 151:15; 152:2, 3; 155:2;
 157:5; 158:1; 159:25; 162:15, 20, 22; 163:3, 6;
 164:2, 23; 165:25; 167:12, 21, 24, 25; 168:9,
 15, 17, 20; 169:17; 173:13; 175:20; 176:11;
 177:3, 12, 20, 23, 25; 181:13; 182:25
 patients [14] 106:1, 25; 107:5; 116:2; 117:24;
 118:7; 120:11; 130:15; 162:1; 166:19; 172:14,
 23; 183:16, 17
 peer [1] 121:14
 Pennsylvania [2] 107:19; 109:10
 people [4] 172:16; 174:8; 176:22; 182:25
 percent [39] 106:22; 109:25; 111:22; 112:2,
 17; 113:2, 5; 115:18, 21; 116:17, 19, 20;
 122:21; 123:2, 4; 125:14, 15; 126:10, 14, 16,
 18; 135:14, 15, 23; 136:13, 16, 17; 137:3, 9;
 167:25; 168:9; 170:14, 20, 25; 176:21
 percentage [1] 156:11
 perfectly [2] 123:19; 167:25
 perform [1] 150:8
 performed [3] 161:10; 168:11; 170:25
 perfused [1] 177:24
 perfusion [9] 147:16; 150:8; 168:4; 177:12,
 13, 14, 15, 21
 period [18] 109:25; 111:6; 114:2; 131:22;
 133:4; 134:2, 25; 138:16; 141:9; 146:9;
 163:24; 164:7, 24; 167:15; 173:24; 174:15, 19,
 23
 person [8] 122:16; 130:16; 134:13, 20;
 154:20; 165:24, 25; 180:3
 phone [1] 119:9
 physically [1] 166:23
 Physician [4] 121:19, 25; 122:6; 171:14
 physician [21] 109:4; 120:10; 130:19; 131:3,
 5; 134:25; 136:2; 138:4; 142:25; 147:19;
 149:14; 156:23; 159:25; 162:15; 163:2; 171:8;
 172:12; 175:17; 181:10; 182:25
 physicians [4] 119:22; 120:25; 133:13;
 170:25
 physiologic [2] 165:3, 6
 pick [1] 181:3
 picture [1] 165:25
 piece [1] 110:19

pills [1] 139:22
 place [6] 109:15; 165:24, 25; 167:17; 168:10; 184:14
 placed [1] 180:2
 placing [1] 181:18
 plain [1] 134:17
 plaintiff [2] 111:8; 132:20
 play [3] 141:25; 152:1; 162:19
 pleasantries [1] 117:3
 Please [1] 174:16
 please [14] 109:25; 113:1; 126:7; 142:25; 158:13; 159:7, 25; 169:15; 170:18; 171:3, 16; 172:9; 173:18; 176:16
 Plevin [1] 120:17
 plugging [1] 183:5
 plus [2] 174:13; 175:21
 point [10] 109:11, 12; 110:25; 114:24; 157:9; 170:3, 14; 173:20; 183:8
 pointed [1] 122:19
 pointing [1] 114:25
 points [4] 110:10; 111:8; 151:6; 156:11
 poorly [1] 133:10
 population [2] 167:25
 populations [1] 116:12
 portion [5] 142:1; 159:18, 20; 170:25; 175:9
 posed [3] 134:25; 141:25; 169:21
 position [1] 164:14
 positions [1] 106:15
 positive [3] 114:7, 12; 174:21
 post [1] 144:7
 posterolateral [1] 135:21
 posterior [1] 145:22
 postoperative [16] 109:8, 19, 22, 25; 111:6; 114:10; 130:10; 131:22; 133:4; 134:2; 144:5; 163:24; 167:15; 173:24; 174:15
 postoperatively [5] 109:15; 130:15; 132:22; 136:23; 147:15
 postpone [1] 141:25
 postponed [1] 143:22
 pour [1] 113:8
 pouring [1] 125:9
 power [1] 165:10
 practice [16] 106:5, 14, 23; 117:3; 118:10; 130:3; 131:21; 132:1; 144:13; 166:15, 16; 171:10, 18; 178:12; 182:25
 preceeding [1] 107:17
 precisely [1] 174:9
 preexisting [1] 176:18
 prefaced [1] 114:25
 preliminarily [1] 109:13
 preoperative [6] 109:8; 114:8; 125:8; 132:9; 134:25; 177:11
 Preoperatively [1] 179:11
 prepared [3] 109:25; 110:19; 133:10
 preparing [1] 107:9
 prescribe [1] 138:22
 prescribed [1] 138:18
 presence [1] 184:8
 Present [1] 104:1
 presented [3] 107:25; 108:1; 143:12
 president [1] 118:25
 pressure [12] 109:19; 133:6; 134:11; 138:24, 25; 139:6, 8; 142:25; 143:9; 167:15; 180:4, 7
 presurgical [1] 140:6
 previous [1] 159:13
 primarily [1] 130:16
 primary [3] 109:15, 20; 130:14
 prior [12] 107:13; 108:3, 13; 110:12; 135:8; 142:3; 143:2; 161:10, 25; 162:9; 167:25
 priority [2] 141:18, 20
 probability [1] 165:25

problem [4] 124:10, 16; 141:25; 163:15
 problems [7] 108:17, 22; 137:23; 138:2; 140:3; 142:25; 146:8
 Procedure [2] 105:5; 110:6
 procedure [2] 109:6; 133:25
 proceed [6] 110:14; 113:1, 19; 167:1; 173:18; 174:16
 process [4] 109:5; 134:25; 137:12; 141:25
 products [2] 162:10, 23
 profession [2] 122:18; 171:7
 Professor [1] 106:9
 program [2] 106:13, 14
 progress [3] 108:5; 155:3; 167:25
 progressed [2] 139:17; 177:10
 prohibit [1] 181:10
 prolonged [1] 141:11
 pronouncing [1] 159:25
 provided [1] 161:6
 providing [2] 162:16; 170:25
 prudence [1] 149:25
 prudent [2] 138:3; 149:23
 Public [2] 184:3, 23
 pulmonary [2] 159:25
 pump [4] 167:25; 181:21, 24; 182:1
 pumping [2] 167:25
 pumps [1] 182:1
 purely [1] 136:22
 purpose [2] 105:3; 177:20
 purposes [1] 152:19
 Pursuant [1] 110:5
 pursuant [1] 105:4
 puts [1] 134:3
 puzzled [1] 148:12
 puzzlement [1] 148:14

* * Q * *

quantify [1] 120:8
 Question [1] 135:1
 question [27] 109:25; 117:14, 19; 119:11; 122:24; 130:4, 8; 132:23; 134:25; 140:16; 141:25; 143:1; 149:11; 151:17; 154:24; 156:19; 157:20; 159:4, 25; 162:8; 169:19, 20; 170:18, 19; 173:15; 180:1; 183:15
 questioned [1] 168:15
 questioning [3] 136:20; 162:4; 167:1
 questions [13] 132:19; 135:10; 139:13; 160:4, 8; 165:25; 166:4; 168:25; 170:25; 177:25; 178:4; 181:12; 183:25

* * R * *

rage [1] 141:12
 raise [2] 130:7; 157:24
 raised [1] 142:21
 rambled [2] 158:17; 159:3
 rambles [1] 159:14
 rambling [3] 158:22; 159:13, 15
 range [6] 142:4, 15, 20; 165:21, 25; 167:25
 rate [2] 134:6; 156:5
 Ray [2] 126:3; 179:23
 Raymond [120] 107:1; 123:16; 128:10, 16; 129:13, 17, 20, 25; 131:7; 132:4, 9; 133:1; 134:9, 18, 22, 25; 137:6, 14, 21, 23; 138:3, 4, 11, 19; 139:16; 140:5, 11; 141:13, 16, 19, 24, 25; 142:2, 3, 4, 7, 8, 14, 15, 18, 19, 23, 25; 143:14; 144:7, 11, 15; 145:9, 18; 146:1, 7, 18, 21, 25; 147:4, 10, 18; 148:7, 23; 149:7, 17, 21; 150:11, 14, 17; 151:4, 11, 19; 152:5, 13, 16, 23; 153:6, 25; 154:14; 155:10; 156:2, 17; 157:10, 21; 158:6, 11, 20; 159:4, 8, 16, 18, 21, 23, 25; 170:25;

179:10, 21; 181:7, 16, 18; 182:5, 7, 9, 11, 13, 17, 19, 21, 23, 25
 Raymonds [1] 142:21
 reach [2] 124:14; 172:5
 reaches [1] 124:15
 read [12] 135:1; 148:2, 22; 149:6, 8, 12; 158:15; 159:25; 161:9; 169:14; 170:3, 4
 reading [6] 140:9; 141:21; 142:25; 172:23; 182:25
 real [1] 110:25
 reason [5] 125:10; 149:25; 170:25; 175:20
 reasonable [8] 109:25; 131:8; 134:25; 151:18; 165:25; 176:3; 177:25
 reasonably [2] 138:3; 177:3
 reasons [2] 116:24; 177:2
 recall [8] 115:4; 118:9, 14; 138:21, 25; 154:6; 155:4; 163:12
 recapitulate [1] 141:25
 receive [1] 109:16
 received [5] 111:9, 18; 132:9; 165:25; 170:25
 receiving [1] 124:8
 recent [1] 126:19
 recognized [1] 139:21
 reconstituted [1] 114:19
 record [34] 109:25; 110:1; 116:25; 132:13, 19; 134:25; 138:8; 141:21, 25; 142:2, 18, 25; 145:10; 146:3, 7; 152:19, 24; 158:11; 159:20; 164:19, 22; 165:1, 23, 25; 167:25; 168:7; 170:25; 171:4, 6; 174:4; 175:17; 176:14; 177:1; 182:7
 records [16] 115:7; 142:25; 143:15; 144:14; 146:17; 153:15, 22; 154:3; 155:1; 159:16, 18; 161:3, 8; 165:19; 171:20
 recovery [1] 112:15
 RECROSS-EXAMINATION [1] 169:1
 Recross-examination [1] 104:10
 red [30] 111:3, 17; 112:3, 4; 113:3, 4, 6, 7; 114:13, 18; 124:21, 22, 24; 125:2, 5, 13, 24; 128:11, 17; 129:2, 4, 5; 141:25; 142:13; 158:12; 173:25; 174:1; 175:7; 177:16
 REDIRECT [2] 166:1; 183:1
 Redirect [1] 104:9
 redirect [1] 104:11
 reduce [1] 182:18
 reduced [1] 184:8
 reduces [3] 116:4, 6, 8
 reduction [4] 116:10; 130:6; 165:9; 173:24
 reference [1] 123:3
 referenced [1] 183:2
 referencing [1] 122:21
 referral [4] 109:5; 117:20; 118:3
 referred [9] 117:6, 21; 118:11, 13; 119:10; 122:18; 150:5; 166:21; 167:3
 Referring [1] 129:1
 referring [2] 118:14; 131:14
 refilled [1] 114:15
 reflect [1] 110:2
 regard [4] 130:17; 147:12; 167:19; 176:16
 region [1] 145:24
 regression [1] 180:7
 regulation [1] 167:11
 relate [1] 109:25
 related [1] 168:21
 relates [2] 165:3, 8
 relative [9] 109:25; 161:5, 12, 25; 165:25; 170:10; 182:15, 25; 184:15
 relatively [1] 172:21
 relevancy [2] 136:21; 139:13
 relevant [6] 116:1, 14; 132:19; 165:25; 177:11; 182:25
 relieve [2] 108:23; 109:6

remaining [1] 117:21
 remarked [1] 123:14
 remember [1] 118:21
 rendered [5] 109:1; 167:23; 177:25
 replaced [5] 109:25; 123:16, 20, 22; 129:10
 replacement [4] 109:25; 129:25; 175:2; 176:9
 report [7] 107:19; 110:5, 13; 126:12; 140:10; 148:2; 154:5
 reported [1] 116:12
 Reporter [1] 184:22
 reports [3] 142:4; 155:7; 156:15
 represent [2] 160:7; 178:3
 requested [1] 108:25
 require [1] 173:13
 required [2] 167:25
 requirement [2] 134:1; 165:6
 research [1] 111:22
 Reserve [1] 106:10
 reserve [3] 165:2, 3, 6
 resistance [1] 141:3
 responded [1] 130:11
 response [1] 166:3
 responsibilities [1] 109:20
 responsibility [6] 109:15; 129:19, 23; 130:14; 131:4; 132:16
 responsible [1] 144:7
 rest [1] 169:14
 result [4] 144:5; 165:16, 25; 173:21
 results [1] 179:22
 retained [1] 159:25
 return [2] 122:12; 155:7
 reveal [2] 154:3, 4
 review [7] 119:21; 121:14; 144:13; 146:7; 163:10; 165:19; 167:25
 reviewed [20] 107:9, 11, 13, 15; 115:7; 119:17, 21, 24; 120:5, 10, 14, 15, 17, 22, 24; 121:1, 6; 161:3, 8; 167:5
 rheumatic [1] 172:17
 RICHARD [3] 104:4; 105:1; 184:5
 Richard [1] 171:5
 Right [3] 127:4; 134:25; 182:9
 right [19] 127:3; 133:12, 15, 17; 134:25; 135:14, 18; 136:13; 140:24; 145:15, 19; 146:2, 9, 13; 155:24; 156:12; 158:24; 182:20
 rise [2] 134:7; 136:10
 risk [20] 133:3, 18, 19, 24; 134:2, 11, 14, 15, 17, 19, 22, 25; 137:14, 16; 157:17, 21; 167:25
 risks [3] 133:14; 134:25; 157:16
 role [1] 166:13
 room [3] 112:15; 173:21, 23
 rounded [1] 114:1
 routine [3] 134:25; 135:17
 Rule [1] 110:5
 rule [2] 116:25; 132:25
 Rules [2] 105:4; 110:6
 rulings [1] 160:4
 run [1] 124:6
 runs [1] 122:16
 rush [1] 145:12

* * S * *

SA [2] 140:24
 safe [4] 112:16; 116:16; 138:17; 140:2
 saying [1] 117:7
 scheduled [1] 143:22
 scheduling [1] 141:17
 schematic [1] 173:19
 Schnell [65] 107:13; 109:1, 2, 3, 4, 7, 13, 14; 117:15, 24; 119:4, 14; 129:16, 24; 130:1, 5, 19; 132:4, 13; 134:25; 135:2, 8, 24; 137:13;

138:11, 18; 141:25; 144:7, 10; 148:5; 153:16, 17, 24; 154:1, 5, 9, 11; 155:1, 5; 157:10; 166:4, 6, 23;
 167:9, 12, 13, 14, 20, 23; 171:22, 25; 177:25;
 178:6; 182:5, 24, 25
 School [1] 106:10
 school [3] 126:18; 166:7; 178:9
 sclerosis [2] 159:25
 SCOTT [67] 109:25; 110:17; 120:2; 121:23; 122:3, 9; 125:21; 131:10, 20; 132:18; 133:16, 22; 134:4, 13, 18, 24, 25; 136:8, 19; 137:10, 15, 25; 138:6, 13; 139:12, 19; 140:1, 15; 141:15, 25; 142:22, 25; 143:17, 24; 144:2; 148:10, 15, 24; 149:10;
 151:13, 21, 24; 157:14; 159:1, 25; 165:25; 166:2; 167:2; 168:24; 170:17, 19, 21, 23, 25; 171:2; 177:25; 178:13; 179:16, 25; 182:6; 183:1, 22
 Scott [19] 104:6, 9, 11; 107:11; 108:1; 110:22; 119:18, 25; 120:6; 160:2; 169:12, 16, 21; 170:3, 4, 25; 175:16; 183:7
 seal [1] 184:19
 second [8] 124:23; 126:25; 130:10; 134:25; 135:9, 11; 141:10; 169:10
 secondary [1] 134:15
 Secondly [1] 134:9
 seconds [1] 141:10
 selection [1] 116:1
 send [1] 170:25
 sends [1] 140:25
 sentence [1] 159:14
 sequential [1] 141:7
 served [2] 118:4; 122:5
 service [3] 117:8; 166:20
 setting [2] 108:7; 162:24
 seven [7] 108:12; 111:22; 122:21; 123:2, 4; 126:9; 165:21
 severe [1] 139:18
 share [2] 129:19; 159:25
 sheet [1] 111:1
 shock [2] 142:25
 shortness [1] 168:5
 show [8] 110:22; 111:11; 134:25; 158:2, 9; 163:23; 167:25
 showing [2] 132:4; 157:6
 shows [4] 152:24; 165:9, 25; 182:16
 sign [1] 168:4
 signal [1] 140:25
 significance [5] 131:14; 163:14; 165:7, 25; 167:25
 significant [5] 136:1; 150:25; 151:9; 167:25; 170:25
 signs [9] 109:20; 132:4; 158:2; 159:1; 168:2, 5; 177:23; 182:4, 13
 silent [1] 182:25
 simplifying [1] 182:7
 simulating [1] 113:9
 Singer [10] 107:20; 109:9, 25; 111:8; 115:3, 4; 132:20; 136:22; 177:11
 single [1] 134:25
 sir [8] 129:8; 132:10; 160:5; 165:7, 25; 177:25; 182:5, 10
 sit [1] 121:11
 site [1] 140:20
 situation [4] 109:14; 159:15; 177:25; 181:14
 six [4] 108:12; 115:18, 22; 116:21
 size [1] 134:21
 slavishly [1] 167:25
 slight [1] 141:15
 slightly [2] 141:11, 25
 so-called [2] 161:25; 165:6

solid [1] 142:11
 somebody [3] 159:3; 170:11; 179:17
 someone [1] 117:7
 somewhat [4] 109:18; 110:24; 167:25
 sorry [4] 123:1; 129:9; 137:19; 174:7
 sort [4] 134:6; 141:25; 182:25
 sound [1] 145:19
 sources [1] 142:25
 speak [1] 118:2
 speaking [3] 130:19; 170:2; 175:11
 specialized [1] 169:23
 specialty [1] 171:15
 specifically [1] 165:8
 specified [1] 184:14
 spend [1] 106:22
 spends [1] 159:25
 spent [1] 168:3
 spoke [2] 141:24; 143:13
 Spring [2] 108:2, 13
 St [1] 171:12
 staff [2] 166:18; 171:12
 stampeded [1] 152:3
 standard [3] 121:8; 167:24; 177:25
 standards [4] 132:22; 171:23; 172:1; 177:25
 Standby [1] 167:25
 standpoint [7] 119:2; 161:16; 164:1; 170:1; 177:20; 182:25; 183:13
 start [3] 111:2, 20; 178:5
 started [3] 129:2; 146:4; 166:10
 starting [1] 125:8
 starts [1] 141:25
 State [3] 184:1, 4, 23
 state [7] 109:19, 25; 114:8; 125:8; 171:3, 6; 177:11
 statement [2] 128:9; 159:23
 states [1] 173:8
 station [1] 144:21
 statistics [1] 167:25
 stature [1] 164:13
 Stenographic [1] 184:22
 stenosis [1] 183:5
 stenotypy [1] 184:8
 step [2] 110:23
 stick [1] 134:17
 stimulate [1] 140:21
 stops [1] 144:20
 straighten [1] 141:25
 strain [4] 134:1, 3, 7, 8
 stress [3] 179:14; 180:3; 181:18
 stricken [1] 173:5
 strike [3] 121:22; 138:8; 148:11
 stricken [5] 116:23; 165:1; 175:17; 176:1; 177:1
 stronger [1] 181:25
 structural [1] 142:25
 student [2] 166:9, 10
 students [1] 166:12
 studies [4] 115:25; 116:12; 141:25; 142:3
 subject [2] 137:2; 141:19
 subjecting [1] 137:14
 subsequently [1] 184:9
 sudden [3] 109:25; 165:25; 176:23
 suffering [2] 141:18, 22
 sufficient [3] 109:24; 124:8; 168:1
 sufficiently [2] 161:4; 177:24
 sugar [1] 134:7
 suggest [1] 183:3
 suggested [4] 161:9; 167:17, 18, 25
 suite [1] 146:22
 suits [1] 120:22
 sum [1] 135:9

supervised [1] 166:12
 Suppes [5] 118:15, 17, 24; 119:14, 15
 supplied [2] 165:21; 177:19
 supplies [1] 141:25
 supply [3] 157:7; 177:16, 18
 support [2] 148:20; 165:13
 supposed [2] 129:13; 132:13
 supposition [1] 164:17
 surgeon [9] 109:6, 16; 112:10; 130:4, 16;
 131:24; 142:25; 153:11; 183:20
 surgeons [1] 170:12
 surgeries [2] 143:21; 149:16
 Surgery [2] 122:20; 123:10
 surgery [102] 107:6, 25; 108:1, 15; 109:11,
 25; 113:22, 23; 116:2, 15, 16; 123:16; 126:3;
 127:2; 128:11, 12, 16, 18, 25; 129:6; 132:10,
 14; 133:1, 3, 9, 15, 20, 21; 134:12, 18, 23, 25;
 137:14, 24; 138:5; 141:11, 16, 17, 25; 142:3,
 7, 9, 18,
 19, 23, 25; 143:14, 16, 19, 22; 144:8, 11;
 145:9, 14; 146:6, 12, 15, 19; 147:1, 5, 18;
 148:8; 149:7, 8, 22; 150:14, 24, 25; 151:4;
 152:9, 12, 13, 16; 153:24; 155:13; 156:2;
 158:21; 159:8; 161:21; 167:17, 25; 170:8, 25;
 173:11; 176:8; 177:13; 183:9
 Surgical [1] 142:25
 surgical [4] 109:6; 142:25; 144:1; 146:22
 surroundings [1] 167:25
 survival [1] 116:14
 suspect [1] 159:12
 suspected [2] 177:3
 suspended [2] 114:15; 142:12
 sustained [1] 175:8
 sworn [2] 105:5; 184:6
 symptom [1] 182:25
 symptoms [8] 158:3; 168:2; 170:10, 11;
 177:10; 182:25; 183:10, 11
 synchronization [1] 141:5
 system [3] 132:5; 134:3; 168:9

* * T * *

takes [4] 141:9; 142:11; 165:25
 talk [5] 123:13; 126:7; 127:1; 142:25; 147:3
 talked [12] 117:1; 119:8; 127:14; 137:20, 21,
 22; 141:19; 142:25; 154:8; 166:23; 176:7, 8
 talking [7] 123:5; 125:1, 16; 168:3; 174:10,
 11; 175:1
 Tank [56] 109:2, 6; 112:10; 118:8, 11, 13;
 119:6, 7, 8; 121:2; 129:12, 17; 130:1, 7, 9, 11;
 131:19; 142:25; 143:2, 3, 10; 144:6; 145:25;
 153:13, 15, 19; 154:1, 5, 10; 157:10; 159:7,
 12, 14, 15, 16, 20, 25; 160:7; 161:11; 167:10,
 13, 19, 21,
 22, 23, 25; 173:1, 6, 8
 taught [1] 126:18
 teach [1] 106:8
 teaching [1] 106:11
 techniques [1] 126:20
 telephone [2] 166:24; 169:21
 telling [1] 107:23
 tend [1] 159:25
 term [1] 141:13
 terms [1] 113:6
 test [3] 114:23; 134:25; 135:4
 tested [1] 142:14
 testified [14] 105:6; 109:9, 10, 25; 115:3, 4;
 124:2, 3; 141:25; 153:1, 5; 161:4; 168:3;
 177:11
 testify [2] 120:1; 184:6
 testifying [1] 159:25

testimony [13] 118:12; 122:12; 129:12, 15;
 147:7; 153:23; 175:16; 177:1, 6; 182:25;
 183:19; 184:7, 11
 Thank [6] 128:9; 160:1; 165:25; 168:25;
 170:25; 183:22
 thank [3] 160:5; 177:25; 183:25
 third [4] 124:23; 125:17; 126:1; 135:22
 threat [1] 136:4
 three [9] 108:16; 116:3; 134:25; 137:5; 143:3;
 156:11; 170:15, 20; 177:9
 times [2] 139:10; 157:11
 Tissue [1] 177:15
 tissue [5] 124:4; 141:25; 147:16; 150:8;
 177:14
 tissues [4] 165:13; 168:1; 177:12, 16
 total [3] 142:13; 145:21; 174:5
 totally [1] 125:12
 town [1] 120:11
 tracing [1] 182:7
 Traditionally [1] 130:3
 training [5] 106:13, 14; 172:12; 175:19; 176:5
 transcribed [1] 184:9
 transcript [1] 184:11
 transfuse [2] 132:24; 175:20
 transfused [2] 111:13; 162:15
 transfusing [1] 157:21
 transfusion [32] 109:16, 21, 22; 111:7, 10,
 18; 129:13; 130:5, 8, 17; 131:22; 147:11, 14,
 22; 152:22; 162:9, 23; 163:17, 21; 164:4;
 165:16, 25; 167:25; 168:15, 16, 19; 173:13;
 175:23; 181:7; 182:25
 Transfusions [1] 157:15
 transfusions [1] 162:1
 translate [3] 111:24; 116:20; 175:12
 transmission [2] 141:12, 16
 transmits [1] 141:1
 trauma [1] 118:22
 traveling [1] 136:17
 traverses [1] 140:25
 treat [3] 106:1; 181:4, 5
 treated [9] 109:4; 118:7; 145:17; 159:25;
 167:9, 13, 14, 25
 treating [8] 108:5; 109:4, 16, 17; 131:2, 5, 13
 treatment [5] 120:10; 143:8; 167:10; 172:14;
 179:7
 trigger [2] 161:25; 162:5
 triggered [1] 140:18
 triple [1] 176:19
 trouble [6] 151:11, 19, 23; 156:17, 21; 182:22
 True [4] 142:25; 147:2; 170:25; 182:18
 true [30] 119:4, 5; 124:1, 12; 131:11; 142:17,
 22, 24, 25; 147:1; 156:7, 8; 157:8, 13; 158:1,
 22, 23; 159:5, 17, 22, 24; 170:20, 22, 25;
 181:11; 182:17, 25; 184:11
 truth [1] 184:6
 Turning [2] 159:18; 165:20
 turning [1] 142:25
 turns [3] 134:14; 175:3; 182:2
 Tuschman [2] 120:15; 121:3
 twice [1] 139:14
 two-day [1] 114:2
 two-tenths [1] 141:10
 type [2] 109:20; 163:15

* * U * *

unable [1] 170:6
 Uncontrolled [1] 180:4
 uncontrolled [1] 134:3
 uncorrected [2] 142:24
 undergoing [1] 109:25

undergone [1] 107:5
 underline [1] 159:13
 underlined [4] 158:12, 16, 18; 159:20
 understand [8] 129:16; 138:8; 140:9; 142:25;
 145:9; 147:4; 178:8; 180:1
 understanding [3] 129:18; 182:25
 underwent [2] 135:12, 16
 unfortunately [1] 176:21
 Unit [1] 106:19
 units [1] 179:5
 University [1] 106:10
 unnecessary [1] 166:5
 unprepared [1] 133:9
 untold [1] 146:18
 unusual [2] 113:22; 170:25
 up-to-date [2] 153:20; 154:10
 upper [3] 140:25; 141:5, 12
 urinary [2] 114:11; 174:20

* * V * *

value [2] 141:25; 167:25
 values [2] 157:22; 175:21
 variety [1] 115:25
 vascular [1] 177:7
 ventricular [2] 141:1, 3
 verbatim [2] 170:3, 4
 Versagi [1] 104:2
 vessel [2] 134:25; 176:19
 vice-chairman [1] 106:20
 VIDEOGRAPHER [1] 167:25
 Videographer [1] 104:2
 view [3] 136:21; 141:22; 159:25
 visit [1] 144:11
 voiced [1] 149:4
 Volume [1] 122:20
 volume [26] 109:25; 111:15, 17, 19; 112:3, 9;
 113:16; 114:15, 19; 122:23; 125:14, 15; 126:9;
 127:14, 22; 142:13; 165:12; 167:25; 168:9;
 175:2, 8; 176:9; 182:1, 2

* * W * *

Wait [4] 131:5; 134:25; 147:20; 156:23
 war [1] 166:11
 Ward [1] 171:5
 watched [1] 150:4
 watching [1] 109:20
 WATTS [3] 104:4; 105:1; 184:5
 Watts [10] 105:3; 110:3, 9; 113:11; 151:19;
 160:4, 6; 161:23; 171:5; 178:3
 ways [2] 134:25; 172:23
 We'll [2] 132:25; 177:25
 weighed [1] 111:21
 weight [3] 111:22; 122:22; 147:13
 west [1] 166:16
 Western [1] 106:10
 Westshore [1] 171:12
 whatsoever [1] 168:17
 WHEREOF [1] 184:18
 willing [2] 145:13; 167:25
 WITNESS [4] 104:4; 167:3; 170:25; 184:18
 witness [3] 105:2; 184:5, 9
 word [2] 109:25; 155:6
 words [6] 128:16; 158:18; 161:15; 163:16;
 170:4; 176:23
 work [3] 122:15; 167:25; 180:5
 worked [2] 145:25; 178:15
 working [2] 113:25; 131:17
 workup [1] 140:6
 Wouldn't [1] 129:23
 wouldn't [7] 120:8; 124:5; 141:25; 167:25;

178:14; 183:19
write [1] 159:20
writeup [1] 134:25
written [4] 155:2, 6; 158:15; 159:9
wrong [1] 141:13
wrote [3] 169:11, 20; 170:12

* * X * *

x-ray [4] 134:25
x-rays [1] 172:24

* * Y * *

year [7] 116:19; 118:25; 166:9; 170:2; 176:23;
178:10, 21
years [27] 106:5, 7, 19; 108:3, 9, 12; 115:19,
22; 116:14, 21; 118:10, 23, 24; 119:4; 121:15;
134:25; 138:12; 141:22; 166:15, 22; 167:13,
14; 173:3; 178:6, 7, 17, 19
yourself [3] 117:15; 119:14; 159:25