IN THE COURT OF COMMON PLEAS

CUYAHOGA COUNTY, OHIO

JANET L. PORACH, Administratrix
of the Estate of John G. Porach, Jr.,

Plaintiff,

-vs-

JUDGE CALABRESE
CASE NO. 316045

LORENZO S. LALLI, M.D.,

Defendant.

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Deposition of DAVID EFFRON, M.D., taken as if upon cross-examination before Margaret Morrow, a Registered Merit Reporter and Notary Public within and for the State of Ohio, at the offices of MetroHealth Medical Center, 2500 MetroHealth Drive, Cleveland, Ohio, at 4:00 p.m. on Friday, October 31, 1997, pursuant to notice and/or stipulations of counsel, on behalf of the Defendant in this cause.

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MEHLER & HAGESTROM
Court Reporters
1750 Midland Building
Cleveland, Ohio 44115
216.621.4984
FAX 621.0050
800.822.0650

APPEARANCES:

Howard D. Mishkind, Esq.
Becker & Mishkind
660 Skylight Office Tower
Cleveland, Ohio 44113
(216) 241-2600,

On behalf of the Plaintiff;

Ronald Rispo, Esq.
Weston, Hurd, Fallon, Paisley & Howley
2500 Terminal Tower
Cleveland, Ohio 44113
(216) 241-6602,

On behalf of the Defendant.

DAVID EFFRON, M.D., of lawful age, called by the Defendant for the purpose of cross-examination, as provided by the Rules of Civil Procedure, being by me first duly sworn, as hereinafter certified, deposed and said as follows:

CROSS-EXAMINATION OF DAVID EFFRON, M.D.

BY MR. RISPO:

Q. Good afternoon, doctor. My name is Ron Rispo. I represent Dr. Lorenzo Lalli in this case and I have a number of questions for you this afternoon.

My objective is to get information. I'd rather not confuse the record, so if my question is not clear, please have it repeated, restated or clarified, whatever, so that you do understand. When you answer, we can assume that your answer is in response to the question as put, okay?

A. Okay.

Q. I have seen your report and in the course of your report you digested 11 materials that were provided to you prior to your writing your report. My question is have you reviewed any additional materials since that time in May of

'97?
A. Yes.
Q. What were they?
A. I have to look through my files here, but I believe they were the depositions of Dr. Botti, B-o-t-t-i, cardiologist, also the deposition of Dr. Selwyn, S-e-l-w-y-n, a report from Dr. Barry A. Effron, and I just recently this afternoon saw but have not read a deposition of Dr. Robert Haufman.
Q. Okay.
A. I believe that's the extent of what I've received since that time.
Q. Okay.

MR. MISHKIND: I think you do have a couple of other reports.

THE WITNESS: Okay.

MR. MISHKIND: The expert report of Dr. Janiak is there. That's not referenced in the report.

THE WITNESS: I'm sorry.

MR. MISHKIND: And Dr. Culley's report.

A. Sorry. That's correct.
Q. Okay.

MR. MISHKIND: I'm sorry. Mary Nerry's deposition as well.

Q. That pretty well brings you up to date as far as I can tell. You're not missing anything.

MR. MISHKIND: I think so.

Q. Okay. With particular reference to the transcripts of Dr. Botti and Selwyn, I'd like to ask you if you agree generally with what they had to say or whether there were any particulars with which you disagreed?

MR. MISHKIND: Before you answer that, let me just show an objection because --

MR. RISPO: It's very general.

MR. MISHKIND: Not only is it general as to one deposition, but you've combined in that general question two deposition transcriptions which are hundreds of pages. So certainly he can answer the question if he can think of something that he agrees or disagrees with. I forgot what your question was anyway.

MR. RISPO: Okay. I wanted to determine to what extent he agreed or

disagreed with the conclusions of either of the previous physicians who have testified to the standard of care.

MR. MISHKIND: With my objection, go ahead, doctor.

A. Without going into specific questions, I believe in general I agree with both physicians.

Q. Okay. That will shorten matters I think quite a bit, but I'd like to review some of the points that were made to make sure that we're on the same page before we go into any further details.

Do you agree that based upon the history and documents available that the probability is that the patient John Porach's myocardial infarction occurred with the onset of symptoms at 5:00 or 5:30 in the morning October 14th, '94?

A. Based on the information that I had available, I would say that his cardiac event happened sometime earlier that morning, yes.

Q. Okay. And do you agree that based on the EKG studies that there was no evidence of a second MI between the first onset of symptoms and the time when the second EKG was done?

A. I'm not aware that there was a second EKG.
Q. I misspoke. That there was not a second MI between the onset of symptoms at 5:00 in the morning and the first EKG that was done at we believe 1539.
MR. MISHKIND: 1539 would be 3 --
MR. RISPO: 1739.
MR. MISHKIND: Right.
A. 1739.
Q. Okay. 1739.
A. Since there's no EKG, I can't -- from the EKG I can't tell whether there was a second myocardial infarction or not.
Q. Okay. The EKG does not show evidence of a recent MI, does it not?
MR. MISHKIND: Objection.
A. I disagree with that.
Q. By that I mean recent within the previous two or three hours.
A. The EKG itself shows abnormal ST segment elevation.
Q. Okay. Right. But the EKG readings are more consistent with an MI which occurred more than a few hours before the study was taken?
A. I can't answer that. I have no idea.

Q. Okay. Can you --
A. Based on the EKG itself, I cannot tell.
Q. Why is that?
A. Because the EKG helps in making the diagnosis. It doesn't necessarily tell you at what period of time an infarction, if it occurred, happened.
Q. An EKG will tell you whether an MI is in progress, right?
A. It can be used to tell such an event, yes.
Q. It can also tell you whether an MI occurred sometime in the past upwards of days or weeks before the EKG was performed?
A. If I have an old EKG to compare it to, it may help you with that.
Q. Okay. I guess my questions are directed to a typical presentation as opposed to an atypical presentation. My question is whether based on the EKG study it is more likely that the MI occurred many hours before the study?
A. I would have to defer to a cardiologist on that. I cannot answer that. I don't know.
Q. Okay. Well, if Dr. Botti or Dr. Selwyn have testified previously that they are satisfied that that EKG as of 1739 does not suggest an MI at 3:30 in the afternoon or 1530, would you

agree with them or would you have any basis to disagree?

A. I don't have any basis to disagree with that.

Q. Okay. Have you looked at the pathology studies by Dr. Haufman or his report?

A. I have seen a couple brief excerpts from it, but I have not read the entire report.

Q. Okay.

MR. MISHKIND: You mean the deposition.

A. I'm sorry, the deposition.

Q. Okay. Do you concur with Dr. Haufman's stated conclusion that the MI occurred within a few hours, quote, unquote, of the day of death, time of death?

A. I have to go back and look at his records here.

Q. He has a report.

MR. MISHKIND: I think the doctor has the report, but what he was referencing, just so that we're on the same page, he was just referencing the deposition which he just reviewed. Actually, I just got it yesterday and I brought out a copy with me today, which was the first time he had a chance to look at

it.

Q. If you have his report, you could refer to that.

A. I don't seem to have it here.

MR. MISHKIND: I think I have an extra copy. Maybe I don't.

Q. I think I left mine behind as well. That's one of the few things I didn't lug out of the office.

MR. MISHKIND: I can show him the reference.

MR. RISPO: It's the end of a paragraph.

MR. MISHKIND: I'll read it for the record. There is no evidence of fibrovascular organization of the thrombos, indicating that the lesion cannot be more than a few hours old. Your question, Ron, is whether he agrees with that.

Q. Yes.

A. If a pathologist says that, I'll have to go along with that. I have no reason to doubt it or question it.

Q. As an emergency room physician, what do you understand those terms to mean, within a few

hours of the death, I think is what it said?

MR. MISHKIND: Let me just show an objection only because Dr. Haufman has already testified as to what he meant and for Dr. Effron to testify as to his opinion of what a few hours means versus the doctor that made the statement, I don't think that's terribly relevant, but he can still answer the question.

MR. RISPO: I understand.

A. I'm not sure what somebody means when they say several hours. My understanding is that it takes between six and twelve hours to have evidence of -- six to twelve hours of myocardia ischemia before you have histological changes consistent with an infarction.

Q. Okay. On the second page of that report, again, towards the end of that last paragraph, he describes it again a little differently, but perhaps if we can read that last sentence.

MR. MISHKIND: The changes in the myocardium and the freshness of the arterial thrombus indicate that the fatal lesions occurred just hours before death. There does not appear to be any evidence of

remote infarct.

Q. Okay. Now, based upon those additional comments by Dr. Haufman, does that help you to interpret what he meant when he said a few hours?

MR. MISHKIND: Same objection, but go ahead and answer.

A. No, it doesn't. I don't know what he means by a few hours. Is it one? Is it seven? I don't know what me means by that.

Q. Okay. You wouldn't interpret that to mean a couple as two or three hours?

MR. MISHKIND: Objection. Go ahead.

A. I don't know. I don't know what he meant. It could mean that -- I don't know what he was specifically referring to.

Q. Okay. A moment ago you said something to the effect that it takes six to eight hours for the infarct to organize.

A. No. What I said was from my recollection it takes between six and twelve hours of myocardial ischemia before you would find histological changes in a specimen consistent with an infarction.

Q. Would that lead you to conclude that the changes

he found could have actually commenced at 5:00 in the morning, 12 hours before death or 13 hours before death?

A. I think that's very reasonable.

Q. Okay. Based upon your review of the case, do you have an opinion as to whether it is possible that John Porach had a second MI after the EKG strip was done?

MR. MISHKIND: Just show an objection as to the form of the question in terms of possible, but go ahead and answer.

A. Based on what I've read and also the gross autopsy report, I don't believe there was any evidence to indicate that he had a second myocardial infarction.

Q. What is your interpretation then of what occurred during the period of 1730 just before the EKG was done and the time of death?

A. I'm sorry. Are you asking me what I think physiologically happened that caused him to die?

Q. Yes. I'm not asking you what happened in the office. I'm just asking medically speaking and physiologically what occurred to cause the death

of John Porach?
A. I believe that he died of an arrythmia which was most likely ventricular fibrillation.
Q. When do you believe that that arrythmia commenced?
A. At the time that he collapsed in the bathroom.
Q. Sometime after the EKG was done?
A. Correct.
Q. And in the doctor's office?
A. That's correct. People, if they have ventricular fibrillation, he would not be standing and talking.
Q. Okay. Now then, I'd like to ask you about emergency room medicine here. In October, 1994, what was the protocol for the use and administration of thrombolytic agents?
A. I believe most emergency physicians and emergency departments in the country would have been certainly exposed to them. I don't remember the exact year that it became the standard of care, if you would, to administer thrombolytics, but it certainly would be somewhere around that time if not earlier to it.
Q. Assuming that it was the standard of care to administer thrombolytics, what were the criteria

for administration in any given patient?
A. Time would be a criteria within I believe four to six hours. Those criteria are continually changing now, but I believe presentation of symptoms within four to six hours of the event -- or I'm sorry, within four to six hours of coming to the emergency department. There are other criteria, EKG changes consistent with the myocardial infarction, you would have to rule out other exclusions, things like recent stroke, recent surgery, history of coagulopathy, an allergy to the medication being administered, recent surgery within the last, I don't know what the criteria is, say one month. Cardiac compressions, chest compressions just prior to that happening, any major recent trauma.
Q. Okay. You don't see or do you see anything in the records that we have to indicate there were any contraindications?
A. No, I do not.
Q. Then let's talk about the criteria for EKG changes. The strip that we have been referring to has been previously marked as an exhibit and I will ask you to refer to the one we've previously marked as Exhibit 2 and ask you

whether that strip meets the criteria for administration of thrombolytic agents?

MR. MISHKIND: Before he answers, you're asking him to assume that an EKG is taken and the patient presents with clinical symptoms to an emergency room?

MR. RISPO: I want to take them one at a time. I suppose for the purpose of this question, we are assuming.

MR. MISHKIND: Okay.

A. The criteria were not only the history, but if the EKG had changes i.e. one to two millimeters in the ST elevation in the anterior leads.

Q. Can you tell us whether the anterior leads show one to two millimeters of elevation?

A. Yes, certainly in the V2 and there's some elevation in V3 as well.

Q. Using the card I gave you to measure, tell us how many millimeters measurement is here.

A. Well, you've got almost one, one-and-a-half millimeters in V2. You probably have closer to one millimeter in V3.

Q. You're using that by the graph paper?

A. That's correct.

Q. Okay.

A. And your little stick here is fairly consistent with that.
Q. Okay. I missed that. Could you repeat that, one and a half?
A. I'd say about one-and-a-half millimeters in V2 and one millimeter in V3.
Q. Is the criteria not more than one or two millimeters in two or more leads?
A. That is correct.
Q. Okay.
A. So you've got elevation in V2 and V3, so you've got at least two leads.
Q. But we don't have more than one millimeter in two leads?
A. That's correct.
Q. Okay. And your previous testimony was one millimeter in V3?
A. That's correct, but if a patient came in to me that had symptoms consistent with an acute myocardial infarction and has ST changes that I see here, I would certainly consider him a candidate for thrombolytics.
Q. But you would agree with me that the EKG standing alone is marginal to meet the criteria?
A. Alone it's nonspecific.

Q. Okay.
A. I can't make the diagnosis based on the EKG. It's suggestive of something abnormal.
Q. Okay. If a patient came in without symptoms and this EKG strip, would he meet the criteria?
MR. MISHKIND: Objection. Again, the hypothetical is not relevant to this case, but go ahead and answer the question.
A. Well, I'd like to know why the person had an EKG to begin with if he was asymptomatic.
Q. Let's suppose it was a routine physical.
MR. MISHKIND: Show a continuing line of objection to anything that doesn't include symptoms, but go ahead.
MR. RISPO: Sure.
A. If the patient has had an EKG as part of a routine physical and was asymptomatic, I'd like to know if he had an old EKG, but I would call it nonspecific ST changes based on this alone.
Q. If that were the case, and you didn't have let's say an old EKG to refer to, would you administer thrombolytic agents to that patient?
A. In an asymptomatic patient?
Q. Yes.

A. No.
Q. What would you do with the patient?
A. I think it would depend upon the history I got from him, my physical exam, is this someone that I knew for a period of time, is it a new patient.
Q. Assuming he was otherwise a well patient and just came through for a general physical and what you had there was the same as Exhibit 2.

MR. MISHKIND: Show a continuing objection to the relevance of this hypothetical, but go ahead, doctor, you can answer.

A. I probably wouldn't do anything if the patient was totally asymptomatic.
Q. You'd release him from your office and send him home?
A. I believe I would do that, yes.
Q. No medication, no monitoring?
A. As far as I'm concerned, no.
Q. Okay. Now, let's talk about timing. You said four to six hours. Now, do I understand from that that if the patient came in with symptoms which he reported to have onset twelve hours earlier, that the protocol would not require or

even permit the use of thrombolytic agents?
A. I believe most of the literature now is --
Q. Excuse me. As of 1994.
A. There were a lot of studies going on at that point in time and still are as to what, quote, is the best time frame to do this in, so there were certain studies that were looking at four hours. There were certain studies looking at twelve hours and twenty-four hours, so I don't know -- that's what I'm saying. I'm not sure when exactly the, quote, standard of care was that we were going to do everybody between four and six hours.
Q. But you did say the protocol was four to six?
A. Well, that's what it is now. Back in '94 I'm not quite sure what the exact protocol was.
Q. Okay.
A. Certainly, if somebody came in within six hours, yes, he would be a candidate.
Q. When they say the protocol is four to six hours, does that imply that a patient who comes in at seven or eight hours will not be a candidate for thrombolytic agents?
A. My understanding of the protocol is that's correct.

Q. Okay.
A. The benefit is -- or the risk outweighs the benefit at that point.
Q. So if you particularize to this case, if John Porach had an onset of symptoms at 5:00 in the morning and presented for the first time in the emergency room at 5:00 in the afternoon, twelve hours later, under the protocol in existence in 1994 he would not have been a candidate for thrombolytic agents?
A. If hypothetically he's having symptoms and we think his heart attack started at 5:00 in the morning, then yes, he would be out of the time frame for the protocol.
Q. Now, is that because the damage to the heart muscle is already irreversible?
A. That certainly could be true. I believe -- the answer is probably yes. It was felt, if I remember correctly, that after a certain period of time with what that standard was back then, that the administration of thrombolytics would not have any beneficial effect for the patient.
Q. And we're of course talking about 1994?
A. Correct.
Q. And that's what we are here about. We won't get

into anything that happened or occurred in 1997.

And the same answer would apply if I were to possit for you that the patient presented in the emergency room at ten hours post onset of symptoms?

A. That's correct.

Q. Okay. And eight hours?

A. That's correct. If we believe that six hours was the maximum limit.

Q. Okay. Is it generally true that the longer you wait, the more damage there will be, that is the longer after the MI occurs, the more damage there will be to the heart muscle?

A. That's usually the case, yes.

Q. Understood in that question is that the longer you wait before administering thrombolytic agents?

A. Correct.

Q. Okay. So that administering within the first two hours would be better than administering at four or five?

A. That's correct.

Q. Okay. In this instance, John Porach complained of symptoms to his wife at 5:00 in the morning

and made no effort to seek any medical care or attention until he called the offices of Dr. Lalli about 9:30 or shortly thereafter that morning, which would place him at four to four-and-a-half hours, maybe five hours post onset of symptoms. Would that still be within the window to offer a thrombolytic agent?

MR. MISHKIND: Before the doctor answers, let me object to the hypothetical, only because I think you used the term 5:00. If you actually look at the testimony of Mrs. Porach, I think it's closer to 5:50 or 6:00, but we've been using the term 5:00 loosely in the testimony.

Q. If that's true, I stand corrected.

MR. MISHKIND: It's not significant to your issue whether it's 5:00, 5:30, 6:00. The question still stands.

Q. Let's suppose it was 5:30, quarter to 6:00, okay?

A. He would be ending the time frame when the window in thrombolytics would be of benefit to him.

Q. John lived in Strongsville and I believe he

would have been about five miles from Southwest General Hospital, which would be, to my understanding, the nearest hospital, emergency room. If he had been advised at 9:30 to call 911 and it took time for them to respond, pick him up and deliver him to Southwest Hospital, he wouldn't have gotten there until about 10:00. Would that still be within the window?

A. He's just about outside the window I would say. If you're using four to six hours as the time frame, and his symptoms started at about 5:30, quarter to 6:00, six hours is 12:00, so he'll still fall in that frame.

Q. So he'd still be in the four to --

A. The four to six hour frame, yes.

Q. But he would have already had some damage before the thrombolytic agents commenced to work their action, correct?

A. I would think so, yes.

Q. Incidentally, how long does it take for the thrombolytic agent to have a therapeutic effect?

A. I don't remember the specific time, but it's relatively quickly, half hour, hour, sometimes even less than that.

Q. Okay. If he presented to Southwest General

Hospital, however, that morning and reported his symptoms given so far in the record here, including the statement that he had nausea, diarrhea, sweating, and achiness, I think he said, and/or tingling all over, quote, unquote, would those symptoms meet the criteria for the administration of thrombolytic agents?

MR. MISHKIND: Objection to the hypothetical, because it doesn't accurately state what the evidence is concerning his symptom complex, but note my objection. He can answer the question as put.

A. The symptoms themselves would make me suspicious about a possible cardiac event, but they themselves would not make me administer thrombolytics.

Q. If you had those symptoms in combination with the same EKG as presented, and I understand it was taken at a different hour, but for the purposes of this question, if it were the same presentation, would that meet the criteria?

A. I would certainly be more concerned with the cardiac event at that point because the EKG is abnormal, and in light of the symptoms, I think I certainly would have considered giving a

thrombolytic.

Q. Okay. If you didn't give a thrombolytic, what would you do with that patient?

A. I would like to rule other things in or out by possibly getting a chest x-ray, sending off for cardiac enzymes, pulse ox, vital signs, blood pressure, pulse, respiratory rate, temperature. I would probably get a cardiology consult if I thought that it was a cardiac etiology.

Q. Okay. Assuming he arrived at the hospital at the earliest at 10:00, four, four-and-a-half hours post onset of symptoms, how long would it take for you to review those options, rule out other diagnoses?

A. It may take an hour. It depends on how busy the emergency department was, the radiology department, the lab, if the consult was in the hospital at that point, if he was readily available.

Q. So that would take us up to 11:00?

A. That's correct. But I also -- again, depending upon where people work, here at Metro, I can administer thrombolytics without getting a cardiology consult. I have the authorization to do that. If I feel a patient has an acute

myocardial process and I want to treat him, I can do so.

Q. Do you know what the state of the protocols were at Southwest General which was the nearest hospital?

A. No, I do not.

Q. Would it be unreasonable to assume it would take them a full hour to rule out other diagnoses?

MR. MISHKIND: Objection. If you know.

A. I don't know it would take them any more time or less than myself. It would be a reasonable -- again, the lab work may take a little more time to get back. It just depended on how things were functioning there.

Q. Assuming best case scenario that they concluded their differential exam, got all the necessary consults by 11:00, that would be five hours, five-and-a-half hours post onset of symptoms. Would he still meet the criteria at that point to administer thrombolytic agents?

A. Yes.

Q. Okay. But again, by that time there could have been significant damage to the muscle?

MR. MISHKIND: Objection as to

could have and the use of significant.

Q. Let me start over again. If they didn't administer thrombolytics until 11:00 and assuming that was five hours to five-and-a-half hours post onset of symptoms, and they did administer and it took half an hour to achieve full therapeutic effect, would that rule out any muscle damage to the heart or would there still be some damage?

A. I would presume at that point there would still be some muscle damage.

Q. Okay. If the patient presented in the Southwest emergency room and reported all of the foregoing that we discussed so far, but also said I have not had any chest pain, then would you administer thrombolytic agents assuming the same EKG?

MR. MISHKIND: Objection. Go ahead.

A. I think I would go back, and based on the fact that this EKG is not normal, but I'd also want to know a little bit more detail as to what does the patient mean by chest discomfort, what does he mean by tingling, why the shortness of breath. I'd need to get a more detailed history

of the patient as well as a physical exam.
Q. But that would be all the more reason you would hold off until you've done the necessary testing and get the blood studies as well as enzymes?
A. I think the blood studies and all the ancillary testing are very important, but it's the clinical history that really makes the diagnosis or certainly makes my suspicion high as to whether this is cardiac or not.
Q. Okay. All the same questions assuming he presented at 4:00 p.m., now ten hours, ten-and-a-half hour post onset of symptoms. I think I understood you to say earlier, but I just want to confirm, at that point given the same symptoms and the EKG, you would not have administered the thrombolytic agents?
A. Based on the time frame, no.
Q. Then if you didn't utilize that therapy, what kind of care or treatment would you have offered to that patient if he presented ten hours post onset of symptoms?
A. If you're assuming that he -- if what I feel is he's having a myocardial infarct based on his symptoms, EKG, I would start him on medication to hopefully reduce further evolution of heart

damage. I would put him on a monitor. I would certainly admit him to the hospital, probably the intensive care or cardiac unit. I would get a cardiology consult and certainly consider, if it was available, taking him to the catheterization lab.

Q. How long would it take to work him up for a cardiac cath?

A. What do you mean by work him up?

MR. MISHKIND: You mean from an emergency room perspective or a cardiac perspective?

Q. I'm not sure I know what the problem is, but let me try it again.

MR. MISHKIND: Okay.

Q. Assuming he arrived at 4:00, 4:00 p.m. in the emergency room, and your judgment was that he had an MI and it was outside the window and you were not going to offer thrombolytic agents, you decide to admit, monitor him, obtain a cardiology consult, and I forgot what you said, schedule a cath, cardiac cath?

A. I would talk to the cardiology person, the attending or the fellow, whoever was on call, and tell them basically this is a patient that

has these symptoms, he's got physical findings as such, he's got an EKG which is not normal, he's outside the window for thrombolytics, but I think that he's a candidate for a catheterization.

Q. Okay. How long would it take from 4:00 to the point where you could get him in for a cardiac cath?

A. That would be dependent upon the institution. I don't know. I mean, it may take a matter of minutes if the catheterization team is available and the cath lab is open. They may not be available at certain institutions. Not every hospital facility has a catheterization team available to take a patient.

Q. We are at MetroHealth here today and that's where you practice?

A. Yes.

Q. MetroHealth being one of the tertiary care facilities in town and probably represents the gold standard in care, how long would it take here?

MR. MISHKIND: Let me just object. Obviously, Dr. Effron appreciates the compliment, but I'm not necessarily certain

that is the gospel, but go ahead.

A. Again, it would depend upon the availability of the cardiologist and the catheterization team, if the lab was open, I would say as little as twenty minutes to maybe a half hour somebody could potentially be up in the catheterization lab.

Q. Okay. And if they were at Southwest General Hospital, it might take a little longer?

A. I don't know what facilities or personnel are available.

Q. As a matter of fact, Southwest doesn't have an open heart center, does it?

A. I don't know. I don't believe so from reading the deposition of one of the other physicians, but I personally don't know.

Q. If they didn't have facilities to do open heart, what would that emergency room be advised to do at that point?

A. It would depend upon the stability of the patient, i.e. his symptoms, his vital signs, his exam. If he has a normal blood pressure, good pulse, it would depend upon -- what we would do is probably administer a number of medications, aspirin, we would probably give him some type of

nitrates to reduce his blood pressure, treat his pain if he was having any, possibly put him on a beta blocker to reduce any further damage that potentially could occur.

Q. And then?

A. It would be up to the cardiologist to make a decision as to what we would do with the patient, whether he would get transferred to an outside facility, whether it be here, Cleveland Clinic, University, or they would keep him in the hospital at Southwest.

Q. Okay. If they were to transfer him to the nearest facility that had an open heart lab, do you know where that would be from Southwest?

A. Well, it could be Fairview or here or the Clinic.

Q. Okay.

A. If it's done by helicopter, you're talking about a matter of minutes in terms of the actual flight.

Q. Do you know how long it takes for a transfer to be effected by helicopter assuming that Metro had no advance notice?

A. Actually minutes to initiate the flight.

Q. Okay. That would have to fly from here to

Southwest?
A. Right. You're talking --
Q. Does Southwest have a landing pad?
A. They do have a landing facility for us, yes.
Q. Okay. Then they would have to transfer him into the helicopter?
A. That's correct.
Q. Transfer him back down here to Metro?
A. That's correct.
Q. Transfer him out of the helicopter into your cardiac cath lab?
A. That's correct.
Q. Okay. Would that take another half hour?
A. Realistically, I would say you're talking at least an hour's time.
Q. So that takes from --
A. Maybe longer than that, but ballpark figure.
Q. From maybe 4:30 to 5:30?
A. I would say at least an hour.
Q. Okay. During that period of time, is it possible for that patient John Porach to have had a fatal arrythmia?
MR. MISHKIND: Objection.
A. Is it possible? Yes.
Q. And I think you understood my question, but just

to make it clear, my question was whether he could have had a fatal arrythmia before he actually arrived at Metro and was brought into the cardiac cath lab. You understood that?

MR. MISHKIND: Same objection. I mean, if you run out your scenario between 4:30 and 5:30, the fatal arrythmia, if we use the time his EKG is done at 5:30 and then minutes after that, so he has a fatal arrythmia in the bathroom, let me just object to the hypothetical and the possibility language, but go ahead and answer the question, doctor.

A. Yes is the answer. He could have had a fatal arrythmia.

Q. In the helicopter or anywhere along the way?

A. That's correct, that's correct.

Q. Okay. I'm going to ask you to bear with me with one more hypothetical question.

Assuming the symptoms as we have on our records so far, at least the way I understand, and I'm sure Howard will have an objection, but --

MR. MISHKIND: I never object to your questions.

Q. If I read the record correctly, and if we believe that to his stepdaughter, Jacquelin Dewit, that he first complained to her at least of chest pain, shortness of breath and pain radiating down the arm somewhere between 3:15 and 3:30 in the afternoon, and assuming that he was directed by someone to the emergency room service and arrived around 4:00 at Southwest General, the closest hospital, had to be transferred down to Metro, then it's still possible given the best of care that he could have had the same fatal arrythmia as he did in this case?

MR. MISHKIND: Objection again to the term possibility, but go ahead and answer.

A. Based on the scenario, the answer is yes.

Q. Okay. Let me consult my notes and get a cup of coffee.

- - - -

(Thereupon, a discussion was had off the record.)

- - - -

Q. It's my understanding that John Porach had an anterior myocardial infarction, is that your

understanding as well?
A. I believe the final pathological diagnosis was anterior septal MI.
Q. Right. Is it true that anterior MI, anterior septal MI is associated with a higher mortality rate than other types of MIs such as posterior?
A. I'd have to defer to the cardiologist on that. I honestly don't know.
Q. Okay. Would you agree with the statement that an anterior MI is associated with a higher percentage of complications?
A. As compared to an inferior MI, usually, yes.
Q. And those complications might include ventricular fibrillation?
A. Again, to go back and answer your question, I think in general I would defer the specific answer to the cardiologist, but I believe an anterior wall myocardial infarction tends to have potentially more complications than an inferior wall heart attack, so there is potential they could have more arrythmia like ventricular fibrillation.
Q. And could have pulmonary edema?
A. Any heart attack can have.
Q. Congestive failure?

A. Yes.
Q. Cardiogenic shock?
A. Yes.
Q. Renal failure?
A. Potentially, yes.
Q. And all of those complications could be fatal?
A. Yes.
Q. Okay. Even if John Porach had the fatal arrythmia in the hospital setting, and even if he could have been provided with state of the art resuscitative techniques, he could have died anyway?

MR. MISHKIND: Objection. Go ahead.

A. Could he have died? Yes.
Q. I mean even here at Metro?

MR. MISHKIND: Same objection.

A. Yes is the answer.
Q. Okay. Would you agree with the statements in the literature that annually there are as many as 500,000 deaths due to coronary artery disease in this country?

MR. MISHKIND: Objection as to the statements in the literature.

Q. Let me provide you with a copy of the literature

I'm referring to.

MR. RISPO: I'd like to mark this as Exhibit 4.

MR. MISHKIND: Actually, you haven't marked anything in this deposition.

MR. RISPO: In his depo we haven't, but I was going to do it sequentially. We left off on 3 in a previous deposition of Dr. Botti, so let's mark this as Number 4.

- - - -

(Thereupon, Defendant's Exhibit 4 was marked for purposes of identification.)

- - - -

Q. I'm referring to the highlighted language, and by the way, we are referring to the Text Book of Advanced Cardiac Life Support published by the American Heart Association, 1994 edition, Page 16-1. Would you agree with that statement?

A. I have no reason to disbelieve it.

Q. Okay. Let me just highlight some more for you here. Would you agree with the statement that approximately two-thirds of sudden deaths due to coronary artery disease take place outside the hospital and usually occur within two hours of onset of symptoms?

MR. MISHKIND: Before you answer, let me just object to the use of the term sudden death and applying that to the facts of this case, but as it relates to that statement, you can answer the question.

A. Based on the literature here, I have no reason to disagree with that.

Q. Okay. And I'm not sure we focused on the previous statement. The sentence reads, This includes approximately 500,000 deaths due to coronary artery disease, the majority of which are sudden deaths.

That's what you understood we were talking about, right?

A. Correct.

Q. Okay. When the term sudden death is used, what does that mean in a temporal sense? Does that mean within two hours, something less than that or something more than that?

A. My understanding is that sudden death means a fatal cardiac event occurring within twenty-four hours of the onset of symptoms.

Q. This literature indicates that two-thirds of sudden deaths occur within two hours after onset of symptoms. Does that mean then, consistent

with your earlier statement, the other third could occur anywhere from two to twelve hours?

A. Well, I'm using the term sudden death to mean up to twenty-four hours.

Q. Up to twenty-four hours. I missed that.

A. So based on what the ACLS book says here, your estimate is that the other third would potentially die within up to the next twenty-two hours.

Q. Okay. With reference to Mr. Porach, if his MI commenced at 5:00 in the morning and he died at somewhere around 6:00 in the evening, would he then come within that statistic of sudden death, one-third of which occur within twelve or twenty-four hours?

A. He would certainly fit within the statistic of someone who has a sudden death event, correct.

Q. By the way, how long have you been in emergency medicine?

A. Since July of '93.

Q. Okay.

A. Fourteen years.

MR. MISHKIND: You said '93.

A. I'm sorry. '83.

Q. It's getting late. So fourteen years, you've

had plenty of experience with patients coming in with cardiac symptoms?

A. I would say so.

Q. Okay. Is it your experience that some patients, particularly younger men or middle age men, have a pension for denial of symptoms?

MR. MISHKIND: Objection.

A. I would say there are both men and women that have denial in certain circumstances. I don't know if young men more than old men. I think it's very case by case.

Q. Drawing upon your fourteen years of experience in emergency medicine, and focusing on those patients who were ultimately evaluated to have a cardiac event, what percentage of them arrive in the hospital setting in time for them to be administered thrombolytic agents within the protocol window of four to six hours?

A. I have no idea what percentage to tell you, sir.

Q. Okay.

A. I don't keep track of it.

Q. I'm not asking for an exact percentage, but is it a frequent occurrence that people arrive with a history of onset of symptoms for more than six hours?

A. What do you mean by frequent?

MR. MISHKIND: Objection.

Q. Well, let's say in a typical month, here we are in October, just finishing the month of October. In a typical month would you see as many people who have arrived more than six hours post onset of symptoms as you did who arrived less than six hours post onset?

A. I don't know if I can honestly answer that. I really don't know the percentage.

Q. Okay. Well, how about in terms of absolute numbers. In the last twelve months, how many have you seen for whom you have administered thrombolytics versus those who you have not?

MR. MISHKIND: If you can answer the question.

A. I'm not trying to evade your question. I don't know the answer.

Q. Have there been any that you have seen who arrived in time for thrombolytic therapy?

A. Yes.

Q. And in terms of numbers, are we talking about a dozen?

MR. MISHKIND: Just let me object. I don't want the doctor guessing. He's

already said that he can't give you an estimate, which is what you asked him to do. And now you are continuing to ask him to go into it. I don't want him guessing.

MR. RISPO: I don't want him to guess either. I'm just asking whether it was more or less than a dozen.

A. I honestly don't know.

Q. Okay.

A. I don't keep track of that specifically. I really can't tell you.

Q. Okay. Do you see more who come in after six hours or more before six hours?

MR. MISHKIND: Objection. I think it's the same question asked just with different verbiage, but go ahead.

A. I think I answered your question. I don't know.

Q. You have no idea whether there are more after six hours or more --

A. No, I don't.

Q. Okay. How many do you see in a year with cardiac symptoms?

A. I know last year we saw close to 55, 57,000 people.

Q. How about yourself though?

A. That's a good question. We see somewhere between 150, 200 people a day, ballpark figure.
Q. How about those with cardiac events, how many would you see?
A. I can't give you a specific breakdown. I mean, I can tell you twenty percent, but I don't know if that's an accurate number.
Q. Okay. Twenty percent of what did you say?
A. 55,000.
Q. Okay.
A. Well --
Q. For you individually?
A. I'd have to break it up by shifts and how many times I'm here, et cetera.
Q. You gave us a number earlier and I forgot what you said.
A. Well, I'm working an average of eighteen shifts a month in the emergency department.
Q. And you gave me a number.
A. I said maybe twenty percent.

MR. MISHKIND: I think what Mr. Rispo was getting at was a figure that you had used of 150 to 200 people.

Q. What was that figure?
A. That's the average number of patients that we

see per day in the emergency department, not me.
Q. The entire department?
A. Yes.
Q. And how many people would see these patients?
A. I'm sorry?
Q. How many are on?
A. Well, depending on the acuity of the patient, what kind of problems did they have, did they have chest pain versus an earache.
Q. How many would you see?
A. That would depend upon -- the emergency department here is broken down into two halves. The acute section which would include people like chest pain or car accidents or gun shot wounds as opposed to people that would come in for supposed nonacute problems like sore throats, eye problems, abdominal discomfort. So depending upon what side of the emergency department I was working on, how busy it was that day, what percentage of people went to what side, I could at some point maybe give you an answer. I don't have any idea what specific percentage of patients I see.
Q. How many doctors would be working in the acute section of the emergency department on a given

day?
A. There is one attending -- well, there is an attending here twenty-four hours a day on the acute side working for the most part eight-hour shifts, so there are three of us here on the acute side.
Q. But only one --
A. At a time.
Q. -- at a time?
A. That's correct.
Q. So if you worked one shift per day, and you were on the acute side, and if you saw one-third of the patients, and I'm not sure the 150 was all --
A. That's all patients. I can't give you a specific breakdown, 75 on one side or 20/80. It's variable. I don't have a statistical answer for you.
Q. Okay.
A. I know that we probably do have some way to find out. I'm sure our department chairman can give us a breakdown in terms of the type of patients that we see. I do not know what that number is. I wouldn't even begin to guess.
Q. I'm not sure it's necessary for you to go to

that much trouble. I guess the only thing I'm trying to determine here is whether it is uncommon for patients to present who have been in denial for a period of six hours before they arrive?

MR. MISHKIND: Objection.

A. I don't know that I can answer that. First of all, what do you mean by uncommon? You're going back to percentages again.

Q. Well, is it unheard of that patients would be in denial for a period of six hours?

MR. MISHKIND: Objection.

A. No, it's not unheard of.

Q. Okay. And you've seen those patients, how many, we don't know.

A. That's correct.

Q. Okay. And if we're talking about one of those patients who presents more than six hours after onset of symptoms, and that patient has had no medical care in between the time of the onset of symptoms and the time he arrived in this hospital, and he's had some heart damage which is irreversible by that point in time, my question to you is, would you consider that person responsible for his own failure to come

in earlier?

MR. MISHKIND: Objection to the hypothetical.

A. What symptoms are you talking about, first of all?

Q. Suppose he had chest pain, shortness of breath and pain radiating to his arm for a period of six hours before and made no effort to obtain medical attention until he arrived in your emergency room let's say seven or eight hours afterward.

MR. MISHKIND: Let me show an objection, because that is not the facts in this case, but he can answer the question.

MR. RISPO: I understand. It's a foundation.

A. I believe if -- first of all, the patients are not physicians. If a patient had knowledge from his physician that these are symptoms that you look for for X, Y and Z disease, and he did not report those or did not do something about those, then I would say yes, the patient has a responsibility or bears some responsibility in not coming to the department.

Q. Okay. Let me look at it a little differently

MR. MISHKIND: Okay.

DAVID EFFRON, M.D.

C E R T I F I C A T E

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

I, Margaret A. Morrow, a Notary Public within and for the State of Ohio, authorized to administer oaths and to take and certify depositions, do hereby certify that the above-named DAVID EFFRON, M.D., was by me, before the giving of his deposition, first duly sworn to testify the truth, the whole truth, and nothing but the truth; that the deposition as above-set forth was reduced to writing by me by means of stenotypy, and was later transcribed into typewriting under my direction; that this is a true record of the testimony given by the witness, and was subscribed by said witness in my presence; that said deposition was taken at the aforementioned time, date and place, pursuant to notice or stipulations of counsel; that I am not a relative or employee or attorney of any of the parties, or a relative or employee of such attorney or financially interested in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of office, at Cleveland, Ohio, this _____ day of _____, A.D. 19 __.

_____
Margaret A. Morrow, Notary Public, State of Ohio
1750 Midland Building, Cleveland, Ohio 44115
My commission expires June 1, 2000

American Heart Association℠
Fighting Heart Disease and Stroke

Textbook of Advanced Cardiac Life Support

Editor

Richard O. Cummins, MD, MPH, MSc

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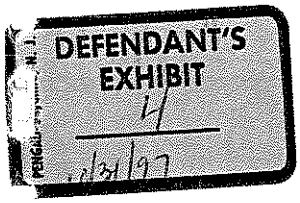

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delivered to children, and cultural, social, and media pressures that mold unhealthy behaviors and lifestyles. Persuasive data argue in favor of aggressive community action. Educators, legislators, and business must be challenged first to declare commitment and then follow with visible, measurable actions. Optimal resources necessary for the primary prevention of atherosclerotic disease have been defined.[21]

Risk Factor Modification

Age-adjusted mortality from coronary heart disease, stroke, and other cardiovascular diseases has declined dramatically from the mid-1960s to 1989. The decline has averaged approximately 2% to 3% annually.[4,22-26] Among these declines, that of coronary heart disease mortality has had the greatest impact on life expectancy. However, it is important to recognize that as the population ages, total heart disease continues to climb.

Many factors have contributed to the decline in cardiovascular disease mortality: heightened public awareness, improved cardiovascular diagnosis and therapy, use of drugs with a cardioprotective effect by persons at high risk, improved revascularization techniques, improved and more aggressive ECC, and modification of cardiovascular risk factors in the population.

Reduction of risk factors at a young age can have the greatest impact. Nevertheless, intervention later in life must not be ignored, since preventive measures have been shown to slow the progression of and even reverse arterial disease and can be expected to reduce morbidity and mortality as well. Clearly some risk factors cannot be changed. These include heredity, gender, race, and age. Major risk factors that can be changed or modified include cigarette smoking, hypertension, elevated cholesterol levels, elevated triglyceride levels, lack of exercise, obesity, stress, and diabetes.

Patients at High Risk

Persons at high risk for cardiovascular disease because of diabetes mellitus, family history of premature cardiovascular disease, and prior MI must be made aware that their risk may be significantly increased if they have other risk factors, such as hypertension, hyperlipidemia, or cigarette smoking. Reduction of risk can be expected with regular exercise and weight control. Control or elimination of those factors amenable to change may be expected to contribute substantially to risk reduction in this group. Thus, in addition to treatment it is important that clinicians teach CPR to families of patients at high risk and stress the importance of improving risk factor status.

The following statements about atherosclerosis and risk factors should be given the broadest possible publication and promotion:

- Cardiac arrest and MI are, in the vast majority of cases, end points in the evolution of atherosclerotic arterial disease over a period of decades.
- The rate of progression of atherosclerosis is the primary determinant of the age at which MI and sudden death occur.
- The rate of progression can be significantly influenced by specific conditions and behaviors referred to as risk factors.
- Control or elimination of risk factors can be established by positive health attitudes and behaviors in the young.
- Modification of cardiovascular risk factors in adults, even those who have had an MI, can alter the rate of progression of arterial disease and reduce the incidence of major end points, ie, sudden death, MI, and stroke.
- Early recognition of cardiac symptoms and prompt intervention including CPR are everyone's responsibility, and education in these subjects should be widely available.

Millions of persons, both lay and professional, have been trained in CPR-ECC. Strong prevention messages delivered during CPR training may have as great an impact on cardiovascular mortality and morbidity as the teaching of emergency measures themselves. Many millions more need to be encouraged to obtain CPR training. Through community education and prevention, CPR training may serve as an effective means of controlling CAD. This aspect of CPR training requires more attention.

The goals of teaching the community to function as the ultimate coronary care unit include

- A lay public educated to recognize the symptoms of a possible MI and to seek prompt entry of the victim into the EMS system
- A lay public trained to support the life of the cardiac arrest victim until ACLS becomes available
- A lay public educated in the importance of early ACLS and eager to support an effective EMS system in the community
- Recognition and reduction of reversible risk factors among the population with known CAD (secondary prevention)
- A business community that measures success by the effect of its products and services on the well-being of the community
- Recognition and reduction of reversible risk factors among the population free of clinical manifestations of CAD, especially the young (primary prevention)

Efforts to accomplish these goals are already under way in many areas. Scientific knowledge of the pathogenesis of CAD and mechanisms of sudden cardiac death has greatly increased in recent years. Knowledge of the methods and importance of primary and secondary prevention of CAD is becoming more widespread. The layperson should consider learning CPR a responsibility to family, loved ones, and self.

merely to collect data but to improve the ECC system. All members of the chain of providers must be represented in the outcome assessment team because the assessment will naturally evolve into the improvement process.

The outcome assessment team should have representatives from health departments, EMS systems, police departments, hospitals, universities, industry, and organizations active in BLS and ACLS training. Often a nonpartisan organization like the AHA can facilitate the genesis of this diverse team and provide an umbrella over the work to be done. A representative team should assess the chain of survival, including all interested providers in the process, and identify (1) current performance, (2) community-specific goals, (3) gaps between current performance and goals, (4) ways to improve the ECC system, and (5) whether performance improves after modifications. This process of continuing quality improvement should be a long-term, ongoing effort in every community.

Design of Cardiac Arrest Studies

When developing a chain of survival assessment, the process of working together may be as important as scientific results. For example, EMS personnel may feel threatened by the review process. Paramedics may question why administrators wish to collect information on how long it takes to defibrillate, or dispatchers may think they are being singled out for scrutiny. Hospitals provide much of the outcome data, but they are also reluctant to undergo outside scrutiny. In reality local politics cannot be separated from the assessment. Most concerns, however, can be addressed, and the effort can move forward if the team represents all providers. Each community must develop its own assessment project to evaluate its chain of survival.

Summary

Cardiac arrest treatment continues to evolve. Adequate treatment of the individual patient requires that the whole ECC system function smoothly, consistently, and rapidly. To maximize communitywide survival rates, a careful evaluation of the entire chain of survival is required, using standard measurements of performance. The challenge for the next decade is to establish this infrastructure and to conduct multicenter, prospective, controlled clinical trials to better define the key factors that will improve survival of cardiac arrest in every community.

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