Doc. 83

STATE OF OHIO :

: SS

COUNTY OF CUYAHOGA :

IN THE COURT OF COMMON PLEAS

DAYLE YAFANERO, Administratrix of the
Estate of ANTHONY YAFANERO, Deceased,
Plaintiff,

-vs- Case No. 180339
Judge O'Donnell

STANLEY T. MECKLER, D.D.S., PHILIP J. LANDSMAN, M.D.,
SCOTT L. ALPERIN, D.D.S., RICHARD SIMMS, M.D.,
Defendants.

The deposition of JOHN H. BURROWS, M. D., a witness in the above-entitled cause, taken before Debra M. Chrostowski, CSR-2035, RPR, Certified Shorthand Reporter and Notary Public in and for Macomb County, Michigan, at 23501 Jefferson, St. Clair Shores, Michigan, on the 21st day of March, 1991, commencing at 4:00 o'clock P.M..

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I N D E X

St. Clair Shores, Michigan
March 21, 1991
About 4:00 P.M.

JOHN H. BURROWS, M.D.,
having first been duly sworn, was examined and testified on his oath as follows:

EXAMINATION BY MR. KAMPINSKI:

Q. Okay. Would you state your full name, please?

A. John Howard Burrows.

Q. Doctor, I am going to ask you a number of questions. If you don't understand me, tell me and I'll be happy to raze any question that you don't understand. When you respond to my questions, please do so verbally. She is going to be taking down everything we say. She can't take down a nod of your head. Okay?

A. Okay.

Q. You have been deposed before I take it, Doctor?

A. I have.

Q. How is it that you were retained in this case?

A. How? Mr. Marmaros contacted me by phone and

sent me a letter.

Q. Had you ever done any work for his firm before?

A. No.

Q. Do you know how it is that he got your name?

A. I do not.

Q. I have just been handed your CV and quite frankly, I haven't had a chance to totally absorb it. What kind of physician are you, sir?

A. M.D.. Internal medicine and oncology physician.

Q. Okay. And you're boarded in internal medicine?

A. I am not boarded. I am a Fellow of the American College of Physicians. It's slightly different but anyways it's the same idea.

Q. Well, all right. Maybe I don't understand, then. Have you ever taken the boards in internal medicine?

A. No. I am a Fellow of the American College of Physicians, which is the same body but it's a different track. Fellowship is actually beyond the boards. I didn't go through the board channel.

Q. All right. How did you become a Fellow?

A. Elected to Fellowship.
Q. By other members of the board?
A. By the American College of Physicians. Yes, sir.
Q. Is it the American College of Physicians that would normally administer the tests --
A. Yes.
Q. -- for board certification?
A. Yes.
Q. Okay. Were you elected at a time before there were boards?
A. No. I didn't go through the boards. And later on I applied for Fellowship and was granted Fellowship.
Q. Okay. How about as an oncologist? Are you a board certified oncologist?
A. Because I don't have my internal medicine boards I can't have oncology boards.
Q. Okay. Is there a Fellowship for oncologists?
A. No.
Q. Okay. All right. So, you are an oncologist?
A. I am an oncologist. Trained as an

oncologist. Yes, sir.

Q. All right. And your training consisted of what, in terms of the specialty of oncology, Doctor?

A. Training at Ford Hospital, Henry Ford Hospital.

Q. And when was that?

A. When?

Q. I'm sorry. '61 to '63 was your residency?

A. Yes. Yes.

Q. Okay. And you have practiced as an oncologist since when, Doctor?

A. Since approximately 1964, '65.

Q. Have you written any papers on doubling time?

A. I have not.

Q. What is it that you reviewed for purposes of rendering your report, sir?

A. Well, I reviewed a lot of things, here. They are not in order.

Q. Well, did you receive them all at the same time?

A. No. A few things have come in, a few depositions. Engelberg's deposition and Bonnell's have come in. Everything else came initially.

Q. Why don't you tell me what you had, initially, prior to actually preparing your report?
A. Okay.
Q. You're referring now to a letter by Mr. Marmaros, I assume?
A. Yes. And it's listed in there.
Q. Okay. And the date of that letter is what?
A. The date of the letter is December 17th, 1990.
Q. All right. Is that your file in front of you, Doctor?
A. Yes.
Q. Why don't you let me take a look at it. Has anything been removed from this file?
A. No.
Q. All right. Since receiving the initial materials set forth in the December 17th letter, you have indicated you received Dr. Engelberg's deposition. I'm sorry. You said Dr. Bonnell's as well?
A. Yes.
Q. And anything else?
A. I don't know exactly what came. I have to

figure it out. There are depositions and --

MR. MARMAROS: Do you want me to help?

MR. KAMPINSKI: Yeah. Sure.

MR. MARMAROS: I think there are records from Dr. Murphy that were sent to you. I think there are records that we received late from the Social Security Administration and the Veterans Administration, I think, which went out to the doctor. I believe the depositions were sent to the doctor. And if there are any other additional medical reports -- you have the letter, which are identified in the letter. And I think that's pretty much it.

Q. (BY MR. KAMPINSKI): All right. Are there more letters there, Doctor, or another file there?

MR. MURPHY: Can I see that file?

MR. KAMPINSKI: Yeah. Hold on one second.

MR. MARMAROS: Show it to him.

A. This is what he's talking about, here. Okay.

Q. (BY MR. KAMPINSKI): Okay. What you have handed me is another file folder and it's got the letter, February 11th, '91, from Marmaros indicating

additional materials; correct?

A. I think so, yes. These things are all out of order and disorganized, so.

Q. All right.

MR. MARMAROS: Those are the records that you talked about.

Q. (BY MR. KAMPINSKI): Why don't you just let me look through the rest of the stuff.

MR. BONEZZI: Pat, why don't you let me look at that.

Q. (BY MR. KAMPINSKI): Did you make notations in any of these records, Doctor?

A. No.

Q. Okay. If, at any time you need to refer to any of this, feel free to do so. Okay?

A. Thank you. I probably will.

Q. All right. Doctor, would you agree that the theory of doubling time is just that and that is, a theory?

A. Oh definitely not.

Q. Would you agree that as to any individual, doubling times can be different?

A. Yes.

Q. Would you agree that -- well, you refer in

your report to standard growth, growth rates --

A. Yes.

Q. -- correct?

A. Yes.

Q. What were you referring to?

A. There are patterns of growth rates from various tumors that we observe and that are fairly consistent and they are well supported and documented in a variety of sources and we see them, ourselves, clinically. And this simply is the behavior that hundreds of us have observed of tumor growth that we have to account for how a tumor grows on. That's what I'm talking about in cell kinetics and doubling time, trying to understand the growth of tissue, we have evolved these patterns and understandings.

Q. I guess what I would like to know is what references you're referring to when you claim that there are standard evaluations of growth kinetics, doubling times, and the biology of these tumors?

A. I have about a hundred such references and articles that I have accumulated. And you can find these things in at least eight or ten standard textbooks with references back to cell kinetics and doubling times. It's virtually in any oncology book

that you want to look at.

Q. What is the doubling time for a squamous cell carcinoma on the tongue?

A. It's in a range of doubling time.

Q. What is it?

A. And the range of squamous cell carcinoma is usually in the range of 50 to 100 days.

Q. I'm sorry. 50 to a hundred?

A. 50 to a hundred days of doubling from the time that we can observe them.

Q. And what book would I look at to find that figure, sir?

A. You can find that in several textbooks. And you can find it in a whole bunch of reference articles.

Q. Tell me which ones, please?

A. I can't tell you which ones. I'd have to go dig it out. I have been studying cell kinetics for years, probably ten years. And this kind of information is not a secret. It's --

Q. Well, if it's not a secret, tell me where it is?

A. I can't. I would have to go get it out for you.

Q. Fine.

A. Well, do you want to go to the library tonight or what?

Q. Well, Doctor, you understand --

A. I am not being wise.

Q. You wrote a report and you referred to specific information. I'm asking you where I can find that information, sir?

A. I can get it for you. I can't get it this moment.

Q. Weren't you asked to have it available here, today?

A. No.

Q. Were you told that I wanted any and all documents or articles and texts that you relied on for purposes of the report?

A. I didn't rely on a single text. I'm telling you that you can go to a great body of literature and there is information there on doubling time.

Q. But yet you can't refer me to any?

A. I could refer you to them. I'd have to go look them up and dig them out.

Q. Well, you understand we are starting a trial Monday. We are here on Thursday. Doctor, when did

you plan to do this?

MR. MARMAROS: Chuck, no offense, but when I asked Dr. Brenner, he said he wasn't going to do my research for me. And he told me and you told me to go to the library. I can site it for you in the transcript.

MR. KAMPINSKI: I'm asking for what this man relied on.

MR. MARMAROS: He told you that he didn't rely on anything.

MR. KAMPINSKI: He said it is supported by the literature.

Where, in the literature? I am entitled to know that.

A. I'm trying to answer you. I have been studying this for over ten years. And I do not have a single source that I'm relying on. I'm relying on my accumulated knowledge of this subject that has gone on for a long time. And I have several hundred -- well, I have at least a hundred articles that I have reviewed on cell kinetics. It's not just for this case or just for squamous cell tumor kinetics. I consider myself a student of it and I didn't rely on a single article. I can't give you a single article for

this case because there is no such single article. It's a body of knowledge of doubling times.

Q. (BY MR. KAMPINSKI): Are you suggesting that some of these articles will say that the doubling time of a squamous cell carcinoma of the tongue is 50 to 80; and some will say 60; some will say 70; some will say a hundred, and some will say it's an not accurate measurement?

A. Yes, some do.

Q. I see. And yet you suggest that it's not a theory; correct?

A. You're saying that it's a theory?

Q. That's exactly what I'm saying.

A. I'm saying it's an observation. You imply, when you say it's a theory, that somebody has invented it and imagined that this is how things happen. This is an observation, a measurement of tumor cells by a variety of means. So, it's not just a theory. It's an observation of a biologic event.

Q. How many times have you testified for the defendants?

A. How many?

Q. Yeah.

MR. MARMAROS: If you know.

Objection. If you know.

A. I can only estimate probably a hundred, 120 times.

Q. (BY MR. KAMPINSKI): These are for physicians who are sued for failure to diagnose cancer?

A. For whatever. I'm an oncologist. Anything to do with oncology.

Q. Well, I specifically asked you how many times. Well, is there a difference between pre-clinical and clinical doubling times?

A. Yes.

Q. What is the difference?

A. Simply pre-clinical is a period of time when we have not had the opportunity to observe and it's a point in time when these cells can't be seen in the body.

Q. And clinical being?

A. Clinical is any point from which you can see and measure a tumor. The earliest that we can start seeing these tumors is probably about a millimeter in size, as we start to see metastases in whatever site. And from then on we can observe the doubling time that takes place.

Q. Typically I thought a centimeter was --

A. A millimeter.

Q. A millimeter as opposed to a centimeter?

A. I'm talking about a millimeter.

Q. I understand the difference. My question is: Typically in the texts, these hundreds of texts that you're referring to suggest that a centimeter is when a lesion becomes clinically apparent?

A. That's when it most often becomes clinically apparent in x-ray or many situations. I'm saying that I see them showing up as metastases in the scan and in various organs as small as a millimeter.

Q. All right. Now, is there a difference, Doctor, between doubling time in metastatic disease and primary?

A. We don't think so.

Q. Who is "we"?

A. We. I'm talking about oncologists that I know.

Q. Which ones are those, sir?

A. I'm talking about the people that I have worked with over the years.

Q. Name names. See, I can't cross examine we's. I mean, you're the only one that's here. If in

fact you're relying on somebody else --

A. I am not relying on anybody. I am relying on my own knowledge of this.

Q. All right. So, you --

A. I discussed doubling time with my colleagues in scientific meetings on frequent occasions.

Q. All right. So, you don't believe there is a difference in terms of doubling time between metastatic tumors and primary?

A. I do not.

Q. Is this based on your experience?

A. Yes.

Q. You have never measured, obviously, a pre-clinical lesion? Those are not measurable?

A. That's correct.

Q. Do you believe there is any difference between doubling times of pre-clinical tumors and clinical tumors?

A. I do.

Q. You believe there is a difference?

A. I believe there is, yes.

Q. Okay. And what do you believe from all the information, of what the difference is?

A. The only information we have on this, again,

and this does get to be a theory, is that in vitro, when you study tumor growth in cell culture, you take lesions and grow them in culture. You see a doubling time that is different. And we try to translate that over to the change in doubling time that we then observe, clinically. So, there is a progression, I think. So, there is a curve of doubling time that starts out rapidly and levels off probably around the 10th doubling or so. And by the time these lesions get to somewhere in the range of 20 doublings, we certainly see them, then, at a plateau.

Q. Ten doublings would be how large of a tumor?

A. Ten doublings is too small to see. It's much too small to see.

Q. And 20?

A. 20 is when you start to see them. A millimeter.

Q. And 30 would be a centimeter?

A. Yes.

Q. That's a billion cells?

A. Approximately.

Q. What method -- okay. So, you're saying that -- you're concluding that there is a difference because of research techniques in vitro as opposed to

anything that you might observe in a human because, by definition, it's not observable?

A. That's right.

Q. And is this curve the Gompertizan curve?

A. Yes.

MR. MARMAROS: Do you still need the articles?

Q. (BY MR. KAMPINSKI): What method do you use for purposes of measuring doubling times, sir?

A. What purpose?

Q. No. What method?

A. What method?

Q. Yes, sir.

A. It's simply a mathmatical calculation of the volume of the tumor.

Q. All right. Would that be, then, the occurrence method?

A. I don't know.

Q. You don't know what that is?

A. The what?

Q. Occurrence.

A. Occurrence? I don't know what you mean by that.

Q. Occurrence: O C C U R E N C E?

A. I'm not familiar with that.

Q. How about DNA flow cytometry?

A. Cytometry is not a measurement.

Q. It's a method, though?

A. It's a method.

Q. That's what I asked you.

MR. MARMAROS: Can he finish his response?

Q. Go ahead. What I told you before is very true, Doctor. If you do not understand a question, tell me. But what I asked you a moment ago was what method you used to determine doubling time?

A. The method I'm using in my discussion of doubling time is your measurement of the tumors that we can see counting the cells.

Q. All right.

A. And measuring tumor volume. Measuring the volume of a growth.

Q. Okay. So, in other words --

A. It's a mathematical measurement.

Q. And you have to have, obviously, two measurements, don't you?

A. Right.

Q. Otherwise, you can't make any conclusions;

right?

A. That's right.

Q. So, you would measure at Point A, for example, one centimeter and you would measure that same tumor at Point B, and let's say it's two centimeters. Therefore, it's double you can then determine for how long it took it to double. Would that be what you're talking about?

A. That's correct.

Q. That would not be DNA flow cytometry, then. It's simple --

A. Simple measurements.

Q. What is DNA flow cytometry?

A. It's a calculation or measurement of the cells in cell growth, of the observation of the DNA pattern that is seen in surveying a slide of cells.

Q. Do you do that?

A. No, I do not do that.

Q. Do they do it at the hospital you're at?

A. Yes.

Q. Who does it?

A. Dr. Heraldo (phonetic).

Q. Who is he?

A. He is a pathologist.

Q. Why would he do it and you not do it since you're a student of doubling time?

A. I don't have the --

MR. MARMAROS: Objection.

A. -- training in doing flow cytometry. I don't do any pathology.

Q. (BY MR. KAMPINSKI): Do you understand it?

A. I do.

Q. What is tritiated thymidine?

A. Tritiated thymidine is labeling where there is radioactive hydrogen. It's used to label the cells and you then measure the radioactive cells and count the number of cells going through replication.

Q. And what is its purpose?

A. The purpose is to establish the growth of cells.

Q. Do you do that?

A. I did when I was a student.

Q. That was, what? 20 years ago?

A. 20 years ago, yes, sir. It's an old technique.

Q. Why don't you use it now?

A. I'm not in research any more.

Q. Do you believe in the staging of tumors,

sir?

A. Yes.

Q. What form of staging do you subscribe to?

A. For the most part TML. There are so many that you can use the one you want.

Q. Do you use that for purposes of treatment?

A. Yes.

Q. You don't use doubling for purposes of treatment?

A. No. My doubling is an interest of mine to satisfy patients and physicians and attorneys as to understanding tumors and I do not use it to establish a treatment plan. I use it to explain things.

Q. Well, of course, Doctor, because if you used it for purposes of a treatment plan, based upon your theory of doubling, as I understand it, you wouldn't treat a lot of people because they would already be metastasized and there wouldn't be any hope for them?

MR. MARMAROS: Objection to your theory of doubling time. I thought you had gone through that.

A. As a matter of fact, the reason that so few cancers are cured, today, is because of this problem. Yes. You're exactly right.

Q. (BY MR. KAMPINSKI): So, when people come to you with a certain size tumor you don't treat them?

MR. MARMAROS: Objection.

A. No. I try to treat what I can treat. In breast cancer the reason we used adjunctive chemotherapy is because we understand this problem. We know that, in fact, that the tumors that eventually evolve in any breast cancer have been there for a long time and it's metastatic to the bones, even though we only have few nodes, we have developed adjunctive therapies to attack this whole issue.

Q. Well, if it's to the bone already, Doctor, that person is dead; isn't that --

A. The patient is going to live for a long time. And if we can slow that down or stop those cells in the bones, that's the whole purpose of breast adjunctive chemotherapy, which is, in fact, based on this knowledge of cell kinetics.

Q. In terms of staging, is size a factor in staging?

A. Yes.

Q. Is perineurial invasion a factor?

A. Yes.

Q. And are those factors for purposes of

prognosis?

A. Yes.

Q. Are those factors for purposes of determining whether or not there has been metastasis?

A. It's a guess at that point.

Q. Do you consider any authors or works to be authoritative as it relates to tongue cancer?

MR. MARMAROS: Objection as to authoritative.

A. No.

Q. (BY MR. KAMPINSKI): Do you consider yourself authoritative as it relates to tongue cancer?

A. No.

Q. Is your practice of oncology, is it specialized as to certain types of cancer? For example, I notice that you use xeromammography. I guess my question is: Is that what you do is breast cancer?

A. Approximately 50 percent is breast cancer.

Q. How about the other 50 percent?

A. General.

Q. General oncology or general medicine?

A. General oncology.

Q. And do you see many tongue cancer patients?

A. I see probably four or five a year.
Q. Okay. Cure any of them?
A. Do I cure any?
Q. Yeah.
A. I think I have had two that I know of that I have been involved in their treatment that were cured.
Q. Okay. And --
A. Not very many.
Q. How big were the tumors when they came to you?
A. I don't recall.
Q. Well, had they undergone hemiglossectomies already?
A. Most of the patients I have seen, obviously as an oncologist, have already undergone some treatment. The ones I'm referring to, yes, in fact had had radiation therapy and surgery and I was involved in their chemotherapy concurrently.
Q. Okay. And how long ago were those people --
A. Last four or five years.
Q. Would you consider Maddox an authoritative source on tongue cancer?
MR. MARMAROS: Objection as to

authoritative. He has already answered it.

A. Yes. I would think he would be, yes.

MR. MARMAROS: Well, I'm going to -- Doctor, did you hear the question about authoritative? Because previously he asked you if you considered any texts to be authoritative.

MR. KAMPINSKI: If you have an objection, make your objection. Don't make a speech. He heard me. I think we are doing fine.

MR. MARMAROS: I don't think he did.

A. You asked me if he was an authority and I said: Yes, he is an authority. There are a lot of authorities of people or people thought to be authorities.

Q. (BY MR. KAMPINSKI): You have read his works?

A. I have read some. I'd have to go back and look. I have read so much and so many authors I do not, again, rely on any particular one.

Q. I take it, based on what you told me earlier, that you do not believe that tumors have a constant growth; correct?

A. I think they do not have a constant growth.

I think it changes during the course of the cells of the life history of that tumor.

Q. Okay. And that would be true, then, both as to primary and metastatic tumors?

A. I would imagine, yes.

Q. Well, I mean, do you know?

A. Do I know?

Q. Yeah.

A. No, I don't know exactly, but --

Q. Sure. Because this is guess work.

MR. MARMAROS: Objection. What is guess work?

Q. (BY MR. KAMPINSKI): As to whether or not it's constant growth for either/or both?

A. We have to go on the observations we can make on either primary or metastatic lesions.

Q. Yeah.

A. And on one patient they seem to be in -- whatever tumor we are talking about, they seem to form a pattern. Biology is not an exact science and so we will see variations from month to month and year to year in anything in biology. So, there will be changes.

Q. And each person would be different?

A. Each person is different.
Q. Each tumor would be different?
A. Yes, but there are patterns. Fairly reliable patterns.
Q. That doesn't help as to individuals?
A. It's a help to individuals. We have a pattern that a tumor of a certain type will adhere to. In other words, a squamous cell in the head and neck is not going to behave like a lymphoma or a breast cancer. It's going to be different.
Q. You believe that the tumor that was on Mr. Yafanero's tongue that was observed by Dr. Landsman is the same that was there in December of 1986 when Dr. Alperin saw it; is that correct?
A. I believe it is.
Q. So, this theory that somehow it was removed and a new one grew there, you don't subscribe to that theory?
A. I don't.
Q. So, therefore, you believe that it was not all removed?
A. I believe that.
Q. Okay. Do you believe that it was clinically observable throughout the period of time from December

of 1986 through August of 1987?

A. I wasn't there to see it but I presume it was.

Q. Have you read any of the depositions of the family members, Mrs. Yafanero, her daughter, her mother, or, have you been told what they have said --

A. No.

Q. -- as it relates to that?

A. No. I have not been told nor have I seen them.

Q. Okay. Were you told what a psychologist said about what Mr. Yafanero said, today?

A. No.

Q. Okay. Were you told about the testimony of Dr. Bhaskar two days ago?

A. No.

Q. Obviously you haven't had a chance to see his deposition because it wasn't written up, yet?

A. No.

Q. You were not advised of his findings?

A. No.

Q. He believes that the slides that he observed that were recuts of the pathology done on December 12th, 1986, reflect carcinoma in situ. Were you told

that?

MR. BONEZZI: Objection.

MR. MURPHY: Objection. That's not correct.

MR. MARMAROS: Objection. You may answer.

MR. KAMPINSKI: Well, I mean, how am I incorrect?

MR. MURPHY: He only looked at one slide.

MR. KAMPINSKI: Oh. You're saying I said slides instead of slide?

MR. MARMAROS: Why don't we get a new question, then?

MR. KAMPINSKI: Sure.

MR. MURPHY: I don't know if it was a recut or a cut. It was a slide is all I can tell you.

MR. KAMPINSKI: A slide of the pathology as it relates to the December 12th, 1986, biopsy of Dr. Alperin. Can we agree with that?

MR. MURPHY: Yeah.

Q. (BY MR. KAMPINSKI): Okay. Fine. And that he believes that that slide reflects the existence of

carcinoma in situ. You're not aware of that?
A. No.
Q. But that doesn't surprise you?
MR. MARMAROS: What do you mean by surprise him?
Q. (BY MR. KAMPINSKI): In light of your belief that there was, in fact, cancer present?
A. I'd have to see more of what he's saying.
Q. No. I understand you haven't seen it. I'm asking you, though: Is that consistent with what you're testifying to?
A. He may have had carcinoma in situ. I am also saying he has this tumor that's been tracking along. He may still -- there are many of these patients that have multiple sites. I don't know what Dr. -- what is his name?
MR. MARMAROS: Bhaskar.
A. Bhaskar is looking at or talking about. I'd have to see it.
Q. (BY MR. KAMPINSKI): We are missing communications. I don't mean that to be the case and I don't mean to confuse the issue or confuse you at all, Doctor.
Two days ago Dr. Bhaskar -- and I

know it's not in his report that I got. I got his report for the first time. And he testified that he had an opportunity to look at a slide that was part of the specimen that was removed from the lesion on Mr. Yafanero's tongue on December 12th, 1986?

A. Okay.

Q. All right. And that is contrary to the pathologist's report that that slide reflects carcinoma in situ as opposed to pseudoepitheliomatous hyperplasia and reactive atypia, okay? That finding is consistent, is it not, with your belief as to what was present in Mr. Yafanero's tongue?

MR. BONEZZI: Objection.

MR. MARMAROS: Objection.

Which --

Q. (BY MR. KAMPINSKI): Of carcinoma in situ?

A. I don't know that I really understand what you're asking me. I would have to know a lot more about what he's looking at on his slides in calling carcinoma or instead of leukoplakia.

Q. I understand that you haven't looked at it. I'm asking you to assume that he is accurate in his observations and what he believes they are.

A. It's not quite consistent with what I am

talking about because I think, in fact, this tumor that I'm talking about may even predate that. We are talking about a process that's been going on in this man's head and neck area for some time. Now, they biopsied an area in 1986, yes, and it had changes in it. Whatever they are going to be, benign or malignant or atypical, time will tell. They can argue that and take a vote. But there was something going on there. Now, what I am seeing, however, later on is a cancer that has been growing for a period of time.

Q. And you're trying to extrapolate from the cancer you see later on as to how long it had been growing?

A. Yes.

Q. Okay. Now, carcinoma in situ is different than a frank cancer, can we agree with that?

A. No. A frank cancer is simply a cancer that has not yet gotten far enough to do other things.

Q. Okay. I misspoke. And those other things being metastasized?

A. Yes.

Q. So, that the observation of carcinoma in situ, if that were the only thing that were present in December of 1986, would then be inconsistent with your

theory?

A. I think it would be inconsistent, yes.

Q. And it would be consistent, then, with the lack of metastasis at that time; correct?

A. Yes.

Q. And it would then also be consistent with the ability to cure an individual if it were all removed?

A. Yes.

Q. All right. Now, in terms of doubling time, how did you arrive -- or, did you arrive at a specific numerical day for the doubling time for Mr. Yafanero's tumor?

A. No, I did not. I have no way of doing that.

Q. Well, I mean you --

A. I have not a measurement of the exact same tumor over two measurements.

Q. Well, you do, don't you?

A. No, I do not.

Q. Well, you -- referring in your report, Doctor -- I mean, I must confess I was -- excuse me. Let me finish my question.

I must confess I was a bit

confused by it because you do refer to measurements in there. And you might want to grab your report.

A. I remember the report.

Q. Okay. Page 2, paragraph one, do you remember that?

A. I don't remember paragraphs.

Q. That's why I suggested that you look at your report.

MR. MARMAROS: It may make things go quicker.

Q. (BY MR. KAMPINSKI): Page 2, paragraph one.

A. This is not my report. Yes, it is. Paragraph one. Okay.

Q. Sure. You state that the neck disease discovered in August of '88 measured at least five centimeters by Dr. Katz' report. And also at that time there were x-ray measurements of one centimeter lesions in the lung. The patient had measurements in 10-88 of six centimeter tumors within the lung?

A. Okay.

Q. Where did you get that from?

A. From the various -- now, that's a mistake. The one -- the six centimeters was not in the lung. That was in the neck. That's a mistake in my

dictation.

Q. Sure. You try to be careful, don't you, in analyzing these --

A. I do.

Q. -- records and in giving opinions?

A. I do, but that is a tumor in the neck not in the lung.

Q. Right.

A. Okay.

Q. Well, if you have got a five centimeter tumor in August of '88, assuming that's right -- and, by the way, where did you get that information?

A. It was in the records.

Q. It was in the records?

A. Chart.

Q. Do you know where?

A. I can find it.

Q. Why don't you do that?

A. Well, it will take awhile. Where are all the records? Where is the other pile of records? I had some folded over and some things --

Q. They are all -- they are all right there.

A. No, they are not all here, sir.

Q. Are these your folders?

MR. MARMAROS: You might want to look for Dr. Katz' file.

A. There is another file.

MR. KAMPINSKI: Did you have his other file?

MR. BONEZZI: No. It's right there.

A. That has the folder we were arguing about. Okay. I would have to go through all of this and find out where it is.

Q. (BY MR. KAMPINSKI): Well, let's assume -- look, I don't want to do this to you, Doctor.

A. Well, I can help you by telling you what I'm talking about.

Q. Good.

A. Yeah. There is a six by six sontometer mass in the neck.

Q. What is the date of that? October 14th?

A. October 19th. October 14th. Okay.

Q. All right. And when was the five -- what was the other one? Five sontometers? Five by three?

A. I don't know that those are the same tumors, sir.

Q. Oh. Well --

A. You're assuming they are the same tumors. I am not.

Q. You are not. So, these measurements really are of no assistance to us in trying to figure out doubling times?

A. No, they are not.

Q. Let's assume they were, just for the sake of argument. And if you had a five sontometer mass -- I'm sorry. When was it? August?

A. August.

Q. And a six sontometer mass in October, what would be the doubling times?

MR. MARMAROS: Objection.

A. Well, that is not a doubling. That's 60 days I guess we are talking about. I would have to go read the dates. And that is an increase in volume of probably, oh, 50 percent in volume.

Q. (BY MR. KAMPINSKI): From five to six is an increase in volume of 50 percent?

A. Yes. Approximately. It is not a doubling.

Q. Right.

A. And so, just on that simple calculation, the doubling time, then, would be approximately 120 days.

Q. Okay. How about the previous measurements

of August 18th, 1988?

A. Of three and a half sontometers?

Q. No, sir. Of two sontometers.

A. Okay. Again, are we talking about the same lesion?

Q. Yes, sir.

A. Okay.

Q. So, now we have got a two month period, August 18th to October 15th, where it went from two sontometers -- I'm sorry. August 18th -- wait a second.

MR. BONEZZI: Was that '87?

MR. KAMPINSKI: No. August 13th it was measured as five sontometers and August 18th it was measured as two sontometers.

MR. MARMAROS: Where are you at?

A. You have got me.

Q. (BY MR. KAMPINSKI): Is there a measurement of the neck of two sontometers on August 18th, sir, of a neck node?

A. August --

Q. 18th.

A. There may be. As I recall, there was.

Q. And would it be more accurate if there was a

measurement by way of CT or x-ray rather than by way of palpation?

A. Certainly. I don't have specific measurements of the same tumor over two points in time. At least I haven't been given them or haven't had the opportunity to see them.

Q. So, as to Mr. Yafanero, then, there is absolutely no way you can tell the doubling time of the tumor?

A. I cannot tell you what his doubling time is. I can tell you what doubling time of head and neck carcinoma usually is.

Q. All right. Let me ask you the following hypothetical, Doctor: If, in fact, we had a lesion on the tongue of approximately the size of the end of a pinkie. Okay?

A. One sontometer.

Q. Yeah. Let's say one sontometer. I think that's probably a fair approximation. And let's say that observations over the next one year period of time remained the same. What would that tell you about the theory of doubling time?

MR. MURPHY: Objection.

MR. MARMAROS: Same objection.

A. If it's a tumor and it hasn't changed in a year, then it's probably not a cancer, or somebody is measuring it wrong. If it's a cancer and growing, it's going to change in size over a year.

Q. (BY MR. KAMPINSKI): Are you assuming the accuracy of the measurements of Dr. Landsman of the tumor in August of 1987?

A. Am I assuming it?

Q. Yes.

A. What about it?

MR. MARMAROS: For what purposes?

Q. (BY MR. KAMPINSKI): For the accuracy of it, for purposes of doubling time?

A. I'm not assuming the accuracy of his measurements at all.

Q. Why not?

A. I have no reason to know whether he measured it accurately or not.

Q. He put down, I believe, and correct me if I'm wrong: Three by four?

MR. MARMAROS: Two by three.

Q. (BY MR. KAMPINSKI): Two by three. I knew you would correct me.

A. Yes.

Q. Dr. Katz measured the tumor in March of '88, didn't he?

A. Yes.

Q. What was his measurement?

A. The measurement was three and a half sontometers in March of '88.

Q. Well, if it was two by three by Dr. Landsman's measurements in August and it was three sontometers in March of '88, what would that tell you about the doubling time?

MR. BONEZZI: Objection.

A. Well, it's gone through about one doubling over a period of about five months.

Q. (BY MR. KAMPINSKI): You mean from two by three to three is one doubling?

A. So, less than that.

MR. MARMAROS: It wasn't -- what do you mean to three?

A. Three and a half sontometers. If you went from two sontometers to three and a half or --

Q. (BY MR. KAMPINSKI): Yeah.

A. These are very rough measurements, obviously.

Q. Sure.

A. I don't rely on the accuracy of them. It's approximately a doubling. The diameter isn't doubling, the volume is doubling. Okay? This is about -- what you're describing is about a doubling. Okay. You're describing a doubling that took place over five months.

Q. Seven months.

A. Seven months. You said October.

Q. I said August to March.

A. You said August. Okay. Then, seven months. Then, you have a relatively slow growing tumor which is very typical of these tumors. That very fact tells you that this tumor is not doubling in a few days or a few hours. It's behaving as head and neck cancers are supposed to behave.

Q. Very slow growing?

A. Very slow growing. The tumors in his neck and lung did not appear overnight nor did they appear in the preceding six or seven months.

Q. Well, what day did they metastasize to his neck?

A. What day?

Q. Yes, sir.

MR. MARMAROS: What day was it

discovered?

MR. KAMPINSKI: He heard me.

A. Nobody knows what day. What year? Several years earlier.

Q. (BY MR. KAMPINSKI): What day did it metastasize to his neck?

A. Who knows the day?

Q. Well, the fact of the matter is --

A. I'm talking, sir, that it is months and years not days.

Q. The fact of the matter is there is nothing clinically observable in his lung, either by way of x-ray or any other fashion, until August of 1988 --

A. '88.

Q. -- isn't that true?

A. That's right.

Q. And there was nothing that was felt to be a metastatic lesion to his neck until August of '88, although, in retrospect it may have been there in March of '88?

A. It certainly would have been.

Q. Your opinions are one thing. I'm talking about observable facts.

A. My opinion is it certainly would have had to

have been there.

Q. I understand. I'm talking observable facts not your theory.

A. Observable and facts are not necessarily the same thing. Now, somebody may have observed it then but that doesn't say what really it was doing then.

Q. Sure. Nor can you tell us because you weren't there. You didn't see him.

A. That's right.

Q. You weren't able to observe or did anybody else observe it at that time and that makes it theoretical; correct?

A. Theoretical? I don't know. I don't like the word theoretical.

Q. I know, but that's what it is.

A. It's not theoretical in my opinion.

Q. When you measure a tumor by volume are all of the cells that you're measuring doubling?

A. No.

Q. Because some of them are dying?

A. Yes. And being replaced.

Q. And some of them are not in a growth phase?

A. That's right.

Q. Some of them are being shed?

A. That's right.

Q. Some of them don't have the ability to metastasize?

A. Truly. We are talking two things.

Q. I didn't ask you a question, yet, sir.

MR. MARMAROS: You don't want him to explain it to you?

Q. (BY MR. KAMPINSKI): I understand. I mean, you're agreeing so far with what I have said?

A. I'm agreeing with what you're saying, yes.

Q. Okay. And if you measure, Doctor, at points and time when somebody is receiving treatment, doesn't that effect your theory?

A. Yes. It slows it down.

Q. All right. So, if you measure when somebody is getting radiation or chemo, that potentially effects this entire theoretical observation; right?

A. Yes.

Q. And if you're measuring a primary tumor, for example, at a number of points in time, that still does not tell you when cells metastasize from that primary tumor, does it?

A. No.

Q. Okay. So, even if a primary tumor is

doubling, that doesn't necessarily equate to a certain point and time where there is metastasis; correct?

A. No. You can only extrapolate.

Q. Right. So, what you're doing, you're not going from the size of the primary tumor but rather from the existence of metastatic tumors and extrapolating back?

A. Exactly.

Q. Saying they are a certain size, therefore, they must have been there at an earlier time?

A. I am extrapolating back from metastatic disease, yes.

Q. You would agree, would you not, many people, even who subscribe to the doubling time theory, who believe that metastatic disease grows much quicker than the primary disease?

A. Yes. I know that. There are many controversies in this area.

Q. Right. That's why it's a theory.

MR. MARMAROS: Objection.

Q. (BY MR. KAMPINSKI): Right?

A. If you wish.

Q. And in terms of measuring, when you measure any given tumor at two points in time, for the

doubling time to have any validity at all, you have got to catch it in its potential growth phase, don't you?

MR. MARMAROS: Objection.

A. No.

Q. (BY MR. KAMPINSKI): Well, I mean, if you --

A. You're talking cells. I'm talking tumors.

Q. You're talking volume?

A. I'm talking a tumor and you're talking individual cells.

Q. No. I think if we are talking about its potential growth phase, you're talking about tumor as opposed to --

A. Okay.

Q. We are both talking about the same thing. Don't you have to catch it while it's growing to get a valid measurement?

MR. MARMAROS: Objection.

A. Well, you have to catch change, yes.

Q. (BY MR. KAMPINSKI): Right. So that if it's not growing and you're measuring it, then, that doesn't -- that will askew your measurement as to doubling time?

A. Yes.

Q. Which is why you can't use average numbers for any given tumor?

A. You have to use average numbers, however.

Q. Well, no, you don't have to use average numbers at all, do you, because you may be right and you may be wrong?

MR. MARMAROS: Is that a question?

Q. (BY MR. KAMPINSKI): Yeah. Isn't that right?

MR. MARMAROS: Don't answer that. You're asking him about whether he may be right or he may be wrong?

MR. KAMPINSKI: Yeah.

MR. MARMAROS: You want him to tell you that he is wrong?

MR. KAMPINSKI: Well, that would shorten things up.

MR. MARMAROS: Come on. That's your question?

Q. (BY MR. KAMPINSKI): Did you understand my question, sir?

A. No.

Q. By using average doubling time, that doesn't

tell you anything necessarily about an individual tumor, does it?

A. It doesn't precisely tell you about an individual tumor, no.

Q. Do you assume that a tumor grows from day one? In other words, when one cell is shed into either the blood stream or the lymph system, that it commences growing from that first day?

A. We don't know.

Q. Do you assume that a tumor grows from one cell or a colony of cells?

A. We don't know.

Q. Well, if --

A. Most people doing research in this area feel it's a colony, a cluster of several cells.

Q. That breaks off from the primary somehow and spreads to some other portion of the body?

A. Small enough to get through a blood vessel but not too big to occlude it and such, yes.

Q. Okay. So, that's --

A. Probably a half a dozen cells.

Q. Well, it could be millions of them, couldn't it?

A. No.

Q. Couldn't it?
A. No.
Q. That would be too big?
A. Too big.
Q. Okay. And there are natural defense systems, are there not, that would prevent even metastatic cells from necessarily growing?
A. There are probably millions that die off in the process.
Q. Sure. So, even if these clusters are being thrown off and get through the various layers that they have to get through, that doesn't necessarily result in the spread of the cancer to other parts of the body?
A. Well, spread to other parts of the body. They do not necessarily grow.
Q. I'm sorry. You're right. So, even though they might spread, they might -- there might not be metastatic disease?
A. True.
Q. Would you agree that you can have doubling times of tumors as little as 11 days?
A. In vitro, certainly. In vivo, we don't know.

Q. Okay. So, under research mediums, that's true. You just don't know in a human being?

A. That's right.

Q. But if you're extrapolating from research, that would lead you to conclude that that can be true?

A. There is a point in time when we know it's as short as ten or 11 days or depending on which tumor you're looking at, and at some point and time it is now established as a much different doubling time. So, between Point A and Point B the process is slowed down. Slowed down drastically. It's gone from a few days to weeks and months. Now, we have at this point and time, now, the opportunity to observe a fairly steady state of growth. From the earliest observations, again, of a millimeter and beyond. And we follow these tumors up to very bulky tumors and we see at that point a fairly constant growth rate.

Q. So, you're talking, once again, about clinical tumors?

A. Yes. So, we extrapolate back from that to the pre-clinical.

Q. All right. But there is no scientific basis of doing so? In other words, it has not been proven scientifically?

A. It cannot be proven one way or the other.

Q. So, for example, in formulating this theory, it is theoretically possible, for example, for you to have a growth phase of a non-clinical tumor with doubling times of five days?

A. Presumably.

Q. Sure. And then that could change once it becomes clinical and you, as a physician, just don't know?

A. That's right.

Q. Would you agree, Doctor, that leukoplasia is an indication for biopsy and appropriate local therapy?

A. Yes. Leukoplakia.

Q. Yes. I'm sorry. What did I say?

A. Leukoplasia.

Q. Okay. Leukoplakia. And what is leukoplakia?

A. It is a change that is taking place in the epithelium that's a placque-like appearance of the epithelium of the lip or the oral cavity.

Q. Do you have any opinions as to the standard of care of any of the physicians involved in this case?

A. No. I did not address that issue.

Q. But you would agree, would you not, that a physician faced with a clinically apparent growth has an obligation to biopsy and follow that patient and not release him and tell him there is nothing to worry about --

MR. MARMAROS: Objection.

Q. (BY MR. KAMPINSKI): -- wouldn't you?

A. I would simply agree that he has an obligation to see the patient is cared for. He may not do it himself.

Q. You're suggesting that either a referral or if it's within his specialty, then, he would have to do it?

A. Yes.

Q. And when you say cared for, you're talking about either biopsying it, removing it, treating it somehow, but not just allowing that patient to leave his care?

A. Yes.

Q. Okay. And the failure to care for it in that fashion would be a failure to adhere to the appropriate standard of care required of that physician, would it not?

A. Depending on the circumstances, I agree, yes. There are extenuating circumstances where the patient is non-compliant, whatever. Who knows?

Q. Sure. Who knows?

A. For the most part.

Q. And your patients rely on you as a physician, don't they?

A. I hope so.

MR. MARMAROS: Objection.

Q. (BY MR. KAMPINSKI): Right. When you tell them there is nothing to worry about, you would hope that they listen to you, wouldn't you?

A. Most of the time, yes.

Q. There would be nothing wrong with them doing that, would there, because that's why they come to you as a skilled practioner?

A. Yes.

Q. Is it your opinion that cancer that is clinically observable as a lesion on the tongue is not curable?

A. No, I wouldn't say that.

Q. All right. So -- and I apologize. I don't really mean to be repetitive but let me just finish this thought process.

You don't decide to treat or not to treat somebody based upon this theory of doubling time?

A. Absolutely not.

Q. And you treat them based upon staging; correct?

A. Yes. But you must understand staging, that staging also isn't an exact science. We stage what we can see.

Q. Right.

A. And then we wait and find out what the stage really is. Many of the patients that I have treated with head and neck cancer never get lung metastasis. And so in those situations I'd say that their staging possibly was accurate and it was a true reflection. The ones who end up with liver or lung or bone metastases two or three years later, their staging was only an approximation staging and it wasn't accurate. Staging has inherent limitations.

Q. And from what you told me so does doubling time; correct?

A. How do you mean?

Q. Well, I mean by virtue of the fact that those who you have treated, obviously they have been

clinically apparent, sufficient to have referral to an oncologist; correct?

A. You have lost me.

Q. Well, I mean, they don't come to you unless it has already been clinically observed, these head and neck cancer patients, right? They come to you for chemo or radiation?

A. I frequently see them in the initial team approach with the radiation therapy and the surgeon as the oncologist.

Q. Sure. So, it's already been clinically apparent; correct?

A. It's been diagnosed for the most part, yes.

Q. Maybe we are saying the same thing.

A. I see these patients frequently at the initial diagnosis.

Q. All right. If we used your doubling time theory, Doctor, those people would have had metastases already; correct?

A. I didn't say that. You're saying that. I am not saying that.

Q. Well, isn't that true --

A. No.

Q. -- based on your theory?

A. No. Doubling time does not tell me whether the patient has metastases or not. I am saying a patient who shows up with this metastases at some point and time the size and distribution of those metastases then tells you something about this patient's doubling time. It's common sense if I remove a cancer and I think it's all gone and two years later lung metastases are there or six months later, then, it wasn't gone when I removed it. I left some behind. There was a tumor in the cell, either -- I mean, there was a tumor in the lung at the time I was treating the primary.

Q. If the node in the neck was five sontometers in August as you set forth in your report --

A. Yes.

Q. -- how big was it in March when Dr. Katz saw Mr. Yafanero?

A. I don't know. Didn't measure it.

Q. Well, how big was it according to him?

A. The tumor that was measured in March of '88 I believe is when you're talking about?

Q. Yes, sir.

A. Was three and a half sontometers.

Q. No, sir. I'm talking about the neck

metastases, which is what you're extrapolating back to say that the tumor was there for many years.

A. It wasn't measured.

Q. Well, did you go through these records fairly carefully?

A. Yes, I went through them very carefully.

Q. Was there a measurement of one sontometer in the neck in March?

A. There was a measurement. I don't know if we are talking about the same lesion.

Q. Well, how many lesions did he have in the neck between March and August?

A. Well, I think there were at least three in there that are being referred to at different times.

Q. In August there were three or was there one?

A. No. No. In August there was one.

Q. Right. And how many were there in March?

MR. MARMAROS: Let's look at Katz' records, again, I guess.

A. There is a measurement of one in March. How many were there in March? I don't know.

Q. (BY MR. KAMPINSKI): Well, how big was the one in March?

A. Three and a half sontometer lesion. That is

the one that I referred to earlier. Is that the one you're talking about?

Q. In March. No, sir. In the neck. In the neck. That's the fourth time I said it.

A. I'd have to go --

MR. MARMAROS: Do you have the record handy to save time, the one you're referring to?

A. I would have to find out what you're referring to.

MR. MARMAROS: I think it's possibly in Katz' or in radiation therapy.

MR. KAMPINSKI: He is the one that reviewed the records.

MR. MARMAROS: You're the one that's got to make the plane.

MR. KAMPINSKI: I'm in no hurry. I'll catch a plane tomorrow.

MR. MARMAROS: Okay. Fine. Let's go to radiation therapy.

You're saying the records reflect that there was a node in the neck in March?

MR. KAMPINSKI: I don't know.

MR. MARMAROS: Well, I don't

remember seeing that.

Q. (BY MR. KAMPINSKI): Is it your testimony that there was no node in the neck in March of 1988, Doctor, from your careful review of the records? I mean, it's not set forth in your report.

A. I do not recall a node being measured in the neck in March of '88.

Q. Okay. When was the first time that there was any measurement of nodes in the neck, since that's what you're using?

A. In August, I believe, of '88.

Q. Okay. So that we don't have any measurement before that that we can compare it to for purposes of determining doubling times?

A. That's what I said half an hour ago.

Q. I just like to be thorough, sir.

A. Yeah.

Q. In your report of December 27th, 1990, do you have that in front of you, sir?

A. It's around here somewhere.

Q. Yeah.

A. Yes, sir.

Q. In the last paragraph on the first page, do you see that?

A. Yes.

Q. You say that the patient had neck metastatic disease in April of '88. Is that also a mistake?

MR. MARMAROS: Objection.

A. What I'm referring to there is that because he later had metastatic disease in the neck that he had metastatic disease at that time.

Q. (BY MR. KAMPINSKI): So, this was by your process of applying your theory logically?

A. My process of reasoning.

Q. Okay. Did you send Mr. Marmaros various publications as it related to doubling time?

A. Yes.

Q. What did you send him?

A. I don't -- I'd have to go find out what I sent him.

Q. Where would you have to go to find that out?

A. From him.

Q. Well, why don't you find out?

MR. MARMAROS: Pardon me?

A. What did I send you whenever I sent it to you?

MR. MARMAROS: We have been through this. I asked for some information on

doubling times for some education purposes. I mean, I don't have the articles with me.

Q. (BY MR. KAMPINSKI): I want to know what you sent him.

A. Ask him.

Q. I'm asking you. You're the deponent.

A. I don't have them here before me.

Q. Those are in the library, too?

A. Yes. I took articles out of my stack of articles and made copies of them.

MR. KAMPINSKI: That's all I have. Anybody else?

MR. BONEZZI: Um-hmm.

Pat, do you have questions?

MR. KAMPINSKI: Do you have any?

MR. MURPHY: I do. I'm waiting. When you're ready.

A. Okay.

EXAMINATION BY MR. MURPHY:

Q. Okay. Dr. Burrows, if a patient has a lesion on his tongue, the lesion is biopsied, reported back as pseudoepitheliomatous hyperplasia with some reactive atypia. And assume there are inflammatory changes at the margin of the biopsy site. The patient

is then followed over a period of approximately five months by the clinician who did the biopsy, who clinically makes a judgment, comes to a determination at the time that the site of the biopsy has healed. There have been no recurrences, no breakdown. Tells the patient just that. That we had this diagnosis of a benign lesion. I followed you. Now, I see no recurrence, no breakdown. Indicates: There is nothing more that I can do for you at this point and time. But tells the patient: If anything recurs, if you have any additional problems with this tongue of any nature, pick up the phone and call me or come back and see me.

As medicine is practiced in this country, do you believe an adult patient would have an obligation to get back with that physician if there is any change in the status of his tongue.

MR. KAMPINSKI: Objection.

A. I would certainly think so.

Q. (BY MR. MURPHY): You made a comment or an answer in response to one of Mr. Kampinski's questions that it is your opinion that the malignant tumor found in March of '88 was present in some form back in 1986 at the time of the initial biopsy and probably

predated that by several years, I believe was your opinion?

A. Yes.

MR. KAMPINSKI: I'm sorry. Could you read that back?

(Whereupon the requested portion of the record was read by the reporter.)

Q. (BY MR. MURPHY): We know from the pathology records that in March of '88 it was diagnosed as a poorly differentiated squamous cell carcinoma I believe?

A. Yes.

Q. My question to you, is: Do you have an opinion as to what form that tumor was in or what histological classification that tumor was in, in December of 1986?

A. Well, I am presuming that this was still a squamous cell carcinoma in '86. The tumor that was found and diagnosed in '88, I think, is the same tumor that is tracked back.

Q. Let me ask a dumb question, perhaps: When one speaks of carcinoma in situ --

A. Yes.

Q. -- in a tongue, let's talk about that generally. You said before, that's still frank malignancy but it's the location where it is and its potential that gives it the classification for in situ, I believe?

A. Yes.

Q. Can carcinoma in situ be squamous cell carcinoma or by definition are they at odds with one another?

A. No. It is a squamous cell carcinoma.

Q. Okay.

A. I mean, in this situation in the mouth at this location the squamous cell is -- well, it could be -- I'm sorry. Let me -- it could also be adenocarcinoma in this location. Rarely you'll have a glandular component in situ. But for the most part, yes, it's going to be a squamous cell carcinoma that is in the process of evolving.

Q. Can you give me your definition, if you will, of a squamous cell or -- strike that.

Of a carcinoma in situ on the tongue? What does that mean, to call it a carcinoma in situ?

A. It is simply a carcinoma that has yet to

invade the basement membrane and is still in the epithelium where it originated.

Q. You also responded to Mr. Kampinski that you presume the tumor was clinically observable between December of 1986 and August of 1987. Is the basis for that presumption of yours your doubling time concept that we have been talking about, here, today?

A. Yes.

MR. MARMAROS: Objection to concept, as well, but go ahead.

Q. (BY MR. MURPHY): Let me re-ask the question.

You have stated that you presume the tumor was clinically present between December of '86 -- strike that.

You have stated that you presumed the tumor was clinically observable between December of 1986 and August of 1987. Your opinion for it being clinically observable during that time frame is based upon your opinions of doubling time for head and neck cancer?

A. Yes.

Q. It is not based upon, obviously, any clinical observations that you made, to state the

obvious --

A. No.

Q. -- is that correct?

A. No.

Q. It is not based upon any of the records or the deposition testimony that you have reviewed?

A. No.

Q. What do you understand what the term field cancerization means?

MR. BONEZZI: F I E L D.

A. It's a new term to me.

Q. (BY MR. MURPHY): Do I understand that even within the concept of doubling time -- I can't think of a better term.

A. Okay.

Q. Within the concept of doubling time, that at any given point and time within your parameters, the growth rate will not be constant? Sometimes it will be growing faster and sometimes it will be growing slower?

A. It has been seen to do so and presumed to do so.

Q. When you testified about staging before, did you say that you use a staging principle to plan

treatment for patients, in part, that's one --

A. Yes.

Q. Is it used, as well, to prognosticate for patients?

A. Yes.

Q. Do you use tumor grading at all for either treatment plans or for prognostic purposes?

A. Yes, for both.

Q. Are you familiar with a descriptive term for histologic grading of anaplasty?

A. Yes.

Q. What does that mean to you?

A. It's a situation where the cells are what you would refer to as bizarre or in a misshapen form and they have less resemblance to normal tissue. It's a poorly differentiated type of cancer and it mixes with the surrounding stroma. It's a term used by pathologists, a descriptive term, of a pattern of growth and a type of cell.

Q. An anaplastic tumor would carry with it a graver prognosis than a well-differentiated tumor?

A. Usually.

Q. From your report, going back -- I'm going to have to repeat some of this, unfortunately. But, from

your report of a five sontometer lesion found in the neck in August of '88, you expressed the opinion that it would take at least anywhere from two to five years to develop; is that correct?

A. Yes.

Q. If we go back two to five years from that point and time, then, in your opinion, that tumor in the neck, that node would have been present at least since August of '83 until August of '86, in that range?

A. In that range.

Q. It's fair to say, is it not, that you do not know what Mr. Yafanero's tongue looked like on May 2, 1987, when he last saw Dr. Alperin?

A. I do not know what it looked like.

MR. MURPHY: That's all I have.

EXAMINATION BY MR. BONEZZI:

Q. Dr. Burrows, my name is Bonezzi. I happen to represent Dr. Simms. You have indicated to Mr. Murphy that you are not familiar with the term field cancerization?

A. No.

Q. That is correct?

A. I am not familiar with the term.

Q. Even though you might not be familiar with the term, have you ever seen it in any reported literature as same relates to oral carcinomas and specifically carcinomas of the tongue?

A. I don't recall seeing it, no.

Q. Okay. Are you familiar with the progression or growth rates pertaining to an in situ lesion and how long it takes to progress to a frank carcinoma or that which is invading the basement membrane?

A. Nobody knows that actually.

Q. Pardon?

A. That is an unknown quantity. We don't know how long. We don't know how long these processes take to go from in situ to invasive.

Q. Is the -- strike that.

Have you read any articles, not for this case but in general, pertaining to growth rates of in situ lesions of the breast versus the tongue?

A. Yes.

Q. And whether or not the growth rates are similar or dissimilar?

A. I wouldn't equate it to breast. We see this in the cervix a great deal where it is quite similar,

where it begins as squamous cell and where, in fact, they have tracked these. And this process of in situ is also found in the bladder, incidentally, and will be followed for as long as five or ten years with in situ lesions before they become invasive. I treat a lot of bladder cancers for in situ bladder cancer and I will treat them off and on for five years. Same thing with carcinoma of the cervix. Again, they say specifically for the tongue, the similarity is the same squamous tissue but different locations. I think it's a general question.

Q. It is.

A. And therefore the general answer is that it can be a delayed, prolonged, protracted process, but you cannot specifically say how long it's going to take in any one patient.

MR. KAMPINSKI: What was that question? From in situ to invasive?

A. Yes.

MR. BONEZZI: Correct.

MR. KAMPINSKI: I apologize for interrupting.

Q. (BY MR. BONEZZI): Would you also take into consideration the host response of an individual in

the determination of growth rates?

A. We would take it into consideration. Again, we can't quantitate it.

Q. Okay. Do you conform to the metastatic theory that metastasis occurs as a result of hemogenous transmission or do you accept lymphatic transmission or do you accept both?

A. It's absolutely both.

Q. Now, what is the significance of a finding of leukoplakia of the tongue?

A. Most people, most pathologists, most clinicians consider it a pre-cancer lesion. It's an area that is going to evolve into a cancer. It's injury of the tissue and response to injury and chronic injury. It is seen, for instance, in pipe and cigar smokers, mostly; people with poor oral hygiene; alcoholics, for the most part. It's usually a sign of chronic irritation that is evolving into a cancerous lesion.

Q. Doctor, what is your definition of an acute process involving leukoplakia?

A. An acute process?

Q. Um-hmm. In other words, what are the parameters of time, by definition, of an acute

leukoplakia? And you can use chronic leukoplakia as a baseline, if you will?

A. Well, I think if I understand your question, what might be a more acute cause of leukoplakia.

Q. Not cause. I'm not concerned with cause, yet. I'm only concerned with what the definition, from a time parameter, is, relative to an acute leukoplakia. In other words, how long does it exist to qualify for acute?

A. I can't give you a time on that. I'm sorry.

Q. Okay. How about chronic?

A. Again, I cannot give you a time. Chronic, as I have said earlier, these lesions can be seen for years.

Q. Are you familiar with whether or not an individual is at higher risk for malignancy where that individual has an acute leukoplakia?

A. To my knowledge, yes. They are at higher risk. It is -- again, it is a more rapidly evolving process, more inflammation involved in acute leukoplakia.

Q. Now, it is your belief, is it not, that there were not two separate distinct lesions involved or involving Mr. Yafanero's tongue?

A. I don't know that. What I'm suggesting is that the location that I'm talking about and the one I'm following is the lesion that goes back a ways. Now, whether or not there was a separate in situ lesion or a separate leukoplakiac area which we can frequently see, we follow several areas of pathology in the same person, I cannot address that. I didn't have an opportunity to observe him. I am simply discussing, in my opinion, a lesion that I'm aware of. Whether there was a second separate lesion or not, I don't know.

Q. Do you know whether or not the ulceration that was removed by biopsy in December of 1986 represented the same area in which the leukoplakia was observed in 1987?

MR. KAMPINSKI: I am going to object to the suggestion that the area was removed in December of '86.

Q. (BY MR. BONEZZI): You may answer, Doctor.

A. I don't know that as a matter of fact. I can only surmise that they were in approximate areas.

Q. Okay.

MR. KAMPINSKI: Approximate?

A. They were in adjacent areas, if you wish.

Q. (BY MR. BONEZZI): They were contiguous?

A. I don't know if they were necessarily contiguous. They were described in the same location.

Q. Okay. Are you familiar with the modality of treatment for an in situ carcinoma of the tongue that is less than one centimeter in its greatest dimension?

A. I think that's very much dependent upon the surgeon's experience. For most people it's going to be a wide excision, leaving a certain margin. That margin has to be determined, in part, by the location and what you have to deal with. But I think most oral surgeons are going to leave a sontometer margin around an area. But, again, I think that has to be dealt with by the oral surgeon at that time. They prefer to leave a distinct margin but they can't always because of location.

Q. When you speak of margin, are you referring to what is called a clear or clean margin?

A. Yes.

Q. Would you agree with me that when one speaks of -- and I am speaking of one being a physician, speaks of clear or clean margin that they are referring specifically to the fact that the margin is clear or clean of a malignancy and not necessarily to

atypical cells or inflammatory cells?

MR. KAMPINSKI: Objection.

Q. (BY MR. BONEZZI): You may answer, Doctor.

A. The pathologist, I think, has to state what he is describing. If he is describing it clear of cancer or clear of whatever. A clear margin is clear of what? I don't know what he is describing. I have to know in his preceding description what he is talking about. If he is talking about malignant cells and then says the margin is clear, I'm assuming that margin is clear of malignant cells. If he is speaking of atypia, I presume he is speaking of it being clear of atypia. If he doesn't so state, then, I have to make an assumption on what he is implying.

Q. You read and reviewed Dr. Meckler's records, did you not?

A. I did read them, yes.

Q. And Dr. Landsman and Dr. Alperin and Dr. Simms?

A. Yes.

Q. Prior to Dr. Landsman's finding, did you review anything in Dr. Alperin's or Dr. Meckler's records as to leukoplakia?

A. I'm not sure who they were.

Q. The dentists who saw Mr. Yafanero prior to referring him to Dr. Alperin in December of 1986?

A. I would have to go back and refresh my memory on who was describing leukoplakia.

Q. Do you recall, as you sit here, reviewing Dr. Alperin's records specifically such that you are able to recall whether or not leukoplakia was mentioned?

A. I cannot specifically say so. I'd have to go back and review it to tell you that.

Q. Are you aware of whether or not there is more than one record that describes leukoplakia? And what I mean by more than one record, I'm speaking of a record generated by a physician?

A. I cannot answer that right now.

Q. Have you had the opportunity to review the slides that were generated relative to the biopsy taken on December 12th, 1986?

A. No.

MR. BONEZZI: Okay. That's all. Thank you, sir.

MR. KAMPINSKI: Just a couple follow-ups, Doctor, and I'll get out of your hair.

REEXAMINATION BY MR. KAMPINSKI:

MR. KAMPINSKI REEXAMINING

Q. There is no evidence, is there, from anything you have reviewed or anything that you have seen in this case of anything other than one continuous lesion that was observed in December of '86, seen again by Dr. Landsman in August of '86 and then ultimately seen in March of -- I'm sorry. '87. August of '87. And then ultimately seen in March of '88 by Dr. Katz. Would that be a fair statement?

A. I think so. That's a fair statement.

Q. Okay. So, there is no evidence of any second lesion on the tongue, is there?

A. No.

Q. Do you, yourself, do biopsies, Doctor?

A. Rarely.

Q. Okay. I take it, and you mentioned before, that you did pathology as a student or resident?

A. No. No. In my Fellowships I did animal research in pathology.

Q. I see. Do you have occasion to submit samples to pathologists?

A. Frequently.

Q. And do you instruct them, when you do that, what it is you want them to look for? For example, would a typical instruction be: Rule out dysplasia,

carcinoma in situ, et cetera?

A. Normally I wouldn't. They would tell me off. I tell them what I am seeing and what I have done and let them tell me what is there. I don't tell them what I want them to see.

Q. Well, no. I didn't mean to suggest that you tell them what you want them to see. But what I was suggesting, was: If the clinician suggests that he wants something ruled out, is it then the obligation of the pathologist to rule out those entities that the clinician has requested him to rule out?

I'm not suggesting that's all he should do, you know. If he finds something else, obviously, he would, you know, presumably tell about it. But if he is given that job, isn't that his function and purpose to follow the clinician's requests?

A. Well, it's his function to follow the clinician's request but it's very generic. A pathologist has a specific job. He has to look at tissue and, in my opinion, describe what he sees on it.

Q. If he comes back, let's say the request is to rule out dysplasia and carcinoma in situ, et cetera

-- and et cetera obviously could be a number of things. If he comes back and says that he has ruled that out but then describes other findings, can you, as a clinician, rely on him in terms of his having viewed the entire sample that you sent him?

A. I have to rely on him.

Q. And, in fact, you do?

A. He's it.

Q. Right. And you assume that if there is something on that slide, that sample that you sent him, he's going to see it?

A. I hope he does.

MR. KAMPINSKI: Okay. That's all.

MR. BONEZZI: Just a couple more.

REEXAMINATION BY MR. BONEZZI:

Q. Doctor, in squamous cell carcinoma of the tongue, can you tell me whether or not the growth of the lesion in question on the tongue grows laterally or does it grow both laterally and in depth?

A. It can grow either way. There is no absolute on that. It may grow in whatever planes. In whatever location it is, it's going to follow certain pathways as it begins to invade. And so there is no answer to that question. It can go whatever way it

wants. It can go hemogenously, lymphatically, along planes. There are variations. It's not one prescribed pattern of growth for all squamous cell cancers of the tongue.

Q. So, in other words, depending upon the plane that the growth occurs on will basically dictate whether or not the growth progression or movement will be lateral or by way of depth or both?

A. In part, yes.

Q. Okay. Now, let me ask you the same question and refer it specifically to CIS. Is the growth rate the same?

A. A CIS must start by invading. To become more than a CIS it must invade through the basement membrane at some point.

Q. Okay. Now, when we are dealing with the tongue and we are dealing with CIS, first of all, there is an invasion of the epithelium of the tongue; is that correct?

A. Yes.

Q. Prior to the time that there is an invasion of the basement membrane, is the growth pattern of CIS of the epithelium, lateral, or, does it go down?

A. It is presumably initially lateral because

we see CIS over an area. We see it frequently over a placque-like distribution. And so we have it removed. CIS is from areas where, in fact, there is a sontometer area involved with this with no invasion and it's still CIS. So, in that situation, at least what you have is one that has either had multicentric growth or it spreads laterally before it has invaded.

Q. Are you aware of whether or not the growth was multicentric in this case?

A. I am not.

MR. BONEZZI: I have nothing further.

MR. KAMPINSKI: Do you have anything?

MR. MURPHY: I have a couple, yeah.

MR. KAMPINSKI: I don't have any more questions. I just wanted to deal with his records.

REEXAMINATION BY MR. MURPHY:

Q. In response to one of Mr. Bonezzi's questions, vis-a-vis the location of the lesion in December of '86 and the location of the leukoplakiac finding that Dr. Landsman made in August of '87, you

said they were described in the same location. But as you were talking to him about that question, I got the impression, and if I'm wrong correct me, that you're saying they were described in the same location but you can't say they were precisely at the same spot? In other words, the left lateral side of the tongue is enough area where there could have been two different locations for those two lesions?

A. Yes.

MR. MARMAROS: Objection. Go ahead.

Q. (BY MR. MURPHY): I didn't hear the full answer before, but you said something about margins and something about an oral surgeon. You're not giving any opinions in this case about the amount of margins an oral surgeon should take when biopsying the type of lesion that Mr. Yafanero had?

A. No, I am not going to address the surgeon.

MR. MURPHY: I didn't think you were. I didn't hear the whole answer.

Go ahead.

REEXAMINATION BY MR. KAMPINSKI:

Q. I would request that I be provided immediately, in light of the trial date of Monday and

we are here on Thursday, of any and all references, Doctor, that you believe somehow supports the growth rate that you have set forth in terms of the doubling time of tongue cancer.

You have indicated there are numerous articles. You say you have to go find them. Apparently, you have looked at them at some point because they were referenced in your report. I would like them and I would like them as quickly as you can get them --

A. Okay.

Q. -- to me.

A. I will.

MR. KAMPINSKI: Additionally, I would like a copy, Mr. Marmaros, of all of the correspondence contained in the doctor's file and, you know, I'll leave that up to you. I mean, you can give it to the court reporter and she can copy it and attach it to the transcript and give the original back to the doctor, or, you can take it.

MR. MARMAROS: I think it would be a lot easier for me to walk it across the street to you.

MR. KAMPINSKI: Then you can walk

it across the street and then give it back to the doctor.

A. Can I give it to you in the form of a bibliography?

Q. (BY MR. KAMPINSKI): Let me tell you what I don't want, Doctor. I don't want you to give me a bibliography of a hundred references, okay, that maybe one of which deals with this specific issue, because, as you can well appreciate, between now and Monday I can't research a hundred different publications. What I am asking for is what articles specifically you are suggesting support your hypothesis in terms of a growth rate between 50 to hundred day doubling time for tongue cancer.

A. Okay.

MR. MARMAROS: You're asking for representative articles? I mean, you don't want a bunch of articles?

MR. KAMPINSKI: If there are a hundred that deal with that issue, I'll take the hundred that deal with that. Sure.

MR. MARMAROS: Well, like you have until Monday he only has until Monday, too.

MR. KAMPINSKI: No. No. You're

wrong. Because he has had not only his entire career, which he has alluded to, but he has had all the time necessary prior to preparing his report, presumably, to look at things which he did mention and is referenced in his report.

I'm only asking for the things that you relied upon for purposes of preparing your report, as you have described in your report. And I don't think that's an unfair request. And if I can have them tomorrow, that's when I'd like them.

MR. MARMAROS: Since we are on the record, Chuck, will your expert give me the same courtesy?

MR. KAMPINSKI: You asked my expert about that. I think he gave you the article.

MR. MARMAROS: No. Your expert said he didn't have to do my research for me and that I should go to the library, myself.

MR. KAMPINSKI: Who was that?

MR. MARMAROS: Dr. Brenner.

MR. KAMPINSKI: There was nothing that he was relying on.

MR. MARMAROS: He told me that it was in any journal. I said: Can you tell me which

journal?

MR. KAMPINSKI: Tell me where there is something in his report where it says that he relied on articles? This doctor refers to it in his report. I am asking for it and I have asked for it.

MR. MARMAROS: I don't see any term in his report that says that.

MR. KAMPINSKI: This is not a game. I asked for this both in the request for production --

MR. MARMAROS: So did I.

MR. KAMPINSKI: You asked for Engelberg's report and you got it.

MR. MARMAROS: I didn't get it from Engelberg.

We don't want to take this time --

MR. KAMPINSKI: You said you wanted to state this while we were on the record.

MR. MARMAROS: I asked in the request for production, Dr. Engelberg's --

MR. KAMPINSKI: Didn't he give you one article when you were out there taking the deposition? Didn't he --

MR. MARMAROS: No offense, the

request was due a month before we went out there. We went through his file and found the article. I found that and he --

MR. KAMPINSKI: When did you respond to my request?

MR. MARMAROS: I didn't see anything in Dr. Burrows' report that says that he relied on --

MR. KAMPINSKI: When did you respond to my request?

MR. MARMAROS: I wrote you a letter, or, I talked to you on the phone.

MR. KAMPINSKI: You didn't respond to --

MR. MARMAROS: I talked to you on the phone.

I don't see, in his report, where he says that he relied on articles in preparation of his report. Maybe I'm stupid, but --

MR. MURPHY: Let me ask one question while they are reviewing that.

REEXAMINATION BY MR. MURPHY:

Q. In respect to the lesion that was present and clinically observed in December of 1986, if the

pathology slides that were prepared from the tissue submitted revealed that the entire lesion or ulcer that was present at that time was removed and had clean margins around it, would you agree that the lesion observed by Dr. Landsman in August of '87 was a different lesion?

A. Yes.

MR. MURPHY: Okay. I'm finished.

REEXAMINATION BY MR. KAMPINSKI:

Q. But based on your theory, obviously, it wasn't all removed, it couldn't have been all removed because it still wouldn't have been there; correct?

A. If there were two different lesions, then we're talking about one that was removed and one that wasn't.

Q. Assuming that that would be the -- say the one that wasn't, that would have been observable based upon your theory; correct?

A. Yes.

Q. And just so the record is clear, in your report, Doctor, you say: Using standard evaluations of growth kinetics, doubling times and the biology of these tumors, those standard evaluations are contained in these articles, are they not?

A. Yes. And I'll tell you that I did not research a single article for this preparation. I did not go and look up anything for the purpose of this case.

MR. MARMAROS: That's what I have been telling you.

A. I can go back and research the literature and I can use the articles that I have accumulated, but I have not a single book or article that I used specifically for this case. I don't do it for any case. I use my knowledge of it.

Q. (BY MR. KAMPINSKI): But the standard evaluations that you refer to in your report are standard evaluations from various texts?

A. I'll send you what I used, to know about this, which is about hundreds --

Q. They don't specifically refer, then, to head and neck --

A. Some do and some actually refute this. And it's a compilation and distillation of this information.

Q. All right. You send me what you've got and I'll work hard, later.

A. I'll send you a bibliography.

MR. MARMAROS: Send it to me, please.

(Deposition concluded)

CERTIFICATE OF NOTARY

STATE OF MICHIGAN )
) SS
COUNTY OF MACOMB )

I, Debra M. Chrostowski, Certified Shorthand Reporter, RPR and Notary Public in and for the County of Macomb, State of Michigan, do hereby certify that the deposition of JOHN H. BURROWS, M. D., was taken before me on the 21st day of March, 1991, at the time and place hereinbefore set forth; that the witness was by me first duly sworn to testify to the truth, the whole truth, and nothing but the truth, that thereupon the foregoing questions asked and the foregoing answers were made by the witness which were duly recorded by me stenographically and later reduced to computer transcription under my personal supervision; and I do further certify that this is a true, full and correct transcript of my

stenographic notes so taken.

I do further certify that the signature to and the reading of the deposition by the witness was not requested by counsel for the respective parties hereto; also, that I am not related to, nor of counsel to either party nor interested in the event of this cause.

Debra M. Chrostowski

CSR 2035, RPR, Notary Public,

Macomb County, Michigan

My Commission expires:

May 3, 1992