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

IN THE COURT OF COMMON PLEAS

ARAZINE SMITH, executrix of the ESTATE of CAROLYN YARBOROUGW, plaintiff,

vs. : Case No. 326850

SAINT LUKE'S HOSPITAL, et al., defendants.

Deposition of ROBERT S. HOLZMAN, M.D., a witness herein, called by the Defendant Steven Bass, M.D., for the purpose of cross-examination pursuant to the Ohio Rules of Civil Procedure, taken via teleconference before Constance Campbell, a Notary Public within and for the State of Ohio, at Forum Conference Center, 1375 East Ninth Street, Cleveland, Ohio, on TUESDAY, JULY 7TH, 1998, commencing at 10:00 a.m. pursuant to agreement of counsel.

APPEARANCES:

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I N D E X

WITNESS: **ROBERT S. HOLZMAN, M.D.**

(NO EXHIBITS MARKED)

(FOR COMPLETE INDEX, SEE APPENDIX)

(IF ASCII DISK ORDERED, SEE BACK COVER)

ROBERT S. HOLZMAN, M.D.

of lawful age, a witness herein, called by the Defendant Steven Bass, M.D. for the purpose of cross-examination pursuant to the Ohio Rules of Civil Procedure, being first duly sworn, as hereinafter certified, was examined and testified as follows:

CROSS-EXAMINATION

BY MISS DISILVIO:

Q. Could you please state your name, Doctor?

A. Robert S. Holzman, H-o-l-z-m-a-n.

Q. Dr. Holzman, it's my understanding you will be coming to Cleveland next week to testify in this matter; is that correct?

A. That is correct.

Q. Do you have before you, Dr. Holzman, the documents you have reviewed in preparation for rendering your opinions in this matter?

A. I have them with me in a carton at my side,

Q. Without asking you to delve into the carton, could you tell me, please, sir, what you have reviewed?

A. Records of various hospitalizations and depositions from at least two defendants and

experts for the defendants.
Q. So you've reviewed, sir, Dr. Lerner's deposition?
A. I have.
Q. And the reports of Drs. Lerner and Frey?
A. Yes.
Q. Have you had occasion to review the deposition of Dr. Chung?
A. No.
Q. Have you reviewed Dr. Chung's report?
A. No.
Q. You reviewed, sir, the deposition of Drs. Bass and Sonpal?
A. Yes, I have.
Q. Have you reviewed any medical literature in connection with the opinions that you are rendering in this case?
A. Yes, I have.
Q. Do you have that literature with you today?
A. Yes.
Q. Could you identify that literature for me, Dr. Holzman, including its title and the author?
A. I need to get the document.
Q. Thank you.
A. The document is Chapter 62 from a book

entitled, Surgical Infections, the chapter title is "Candida Infection and Candidemia," authors Joseph S. Solomkin and Elias Anaissi.

Q. Have you reviewed any other literature, textbooks, other than Chapter 62 of the textbook Sursical Infections?

A. This morning I looked at on-line radiologic Atlas to refresh my memory about CT scans.

This chapter I looked at, but it was not something that I had reviewed prior to my writing my report or in forming my opinions.

Q. Now that you've had an opportunity to review that chapter, have your opinions changed from those expressed in your report?

A. No, they have not.

Q. I'll ask you about your opinions in a moment, but as it relates to your reading of Chapter 62 of Surgical Infections, has it added to your opinions as expressed in your report?

A. I would say it's confirmed them, it has not added to them.

Q. Dr. Holzman, how many reports including drafts have you prepared in this case?

A. I think I submitted two reports. I may have submitted a draft in which I had one of the

doctor's names wrong and resubmitted it with the name changed. That is recollection, I don't have in my files two copies of the report.

Q. Would you have maintained the draft of your report on a computer or in any other file?

A. I do have it on a computer and I looked at those files before coming here, so there is no draft in the computer. If I did do that, I overwrote the same draft in the computer.

Q. So if I understand you correctly then, there is no copy of the draft report in your file, of the draft report that you provided to Miss Kolis?

A. That's correct. I'm not sure that 1 did. I may have. I'm not positive that I did.

Q. Dr. Holzman, do you have any opinions regarding the cause of Carolyn Yarborough's neurological deficits?

A. Not that I could state to what you would consider a reasonable degree of medical certainty.

Q. What opinions do you have that you are willing to express to a lesser probability?

A. I believe that she was suffering from the consequences of either a viral infection of her central nervous system or an allergic reaction to a viral infection in her central nervous system.

I think it's also possible she was suffering from a family of diseases of the nervous system known as demyelinating disease, which include multiple sclerosis; as to which of the possibilities is the most likely possibility, I'm not sure I can venture an opinion on that.

Q. Is it your opinion to a reasonable degree of medical certainty one of those entities you just enumerated was the cause of her neurologic deficits?

A. Yes, but with the proviso that the third cause is a very large group of diseases.

Q. When you state that she may have been suffering from the consequences of a viral infection of her central nervous system, can you attribute any organism as to the etiologic source for the virus?

A. Given the time of year of the event, the most likely cause would be a virus in the family of viruses known as Enteroviruses, comprised of three broad groups of viruses known as Echovirus, Coxsackievirus and Poliovirus. Poliovirus causes poliomyelitis, the others are related organisms, related viruses.

Q. Do any of those viruses you just outlined for

correct, there might or might not have been a need for continuing immunosuppressive therapy, that would be primarily related to the last possibility.

If things get worse you need to use

more anti-inflammatory suppressives, things get better, you bring it down, reduce it.

Q. Do you have an opinion as to Miss Yarborough's life expectancy had she survived?

A. No, I don't,

Q. Would you agree with me, Doctor, Miss Yarborough would not have survived a statistical life expectancy for a black female?

A. If we consider black females at age **51**, the life expectancy of a black female at age **51**, which was her age at the time, I would agree with the statement. I'm not sure I can go back and look at the life expectancy from birth.

Q. However, given her presenting symptoms and conditions at the time this occurred, you would agree that her -- that she would not have survived a statistical life expectancy of a black female?

A. Yes, I do agree with that.

Q. Do you have an opinion as to Miss Yarborough's mental status upon her admission in January to Saint Luke's?

A. Upon her admission on January 5th?

Q. Yes.

A. The January 5th admission?

Q. Correct.

A. Can I refresh my memory with a document?
Q. Certainly, Doctor, any time you want to refer to the document, please do so.
A. At the time that she presented on the 5th I think the records describe different levels of impaired consciousness. She was severely ill, I think some of the records describe her as being poorly responsive or responsive to pain. Others describe her as being somewhat more responsive.

Her mental status was affected by her illness at the time she presented, that is she had a severe infection, she was intoxicated by that infection. One way of describing that would be it was very active, delirious. She was not delirious in being overactive, she was underresponsive at the time she came in.

Q. You would agree with me, Doctor, Miss Yarborough's mental status was compromised, if I understand you correctly, due to her infection?
A. Well, some of the notes -- let me use the chief surgical resident as an example -- I'm sorry, I'm looking at the 1-9 admission.

MISS KOLIS: That's the one she is talking about.

A. That is the one you are talking about?

Q. Correct.
A. I said previously 1-5.
On the 1-9 admission the chief resident describes she is not responding to verbal stimuli; responding to pressure on the sternum which is a way of evoking a response to pain, so her mental state was depressed at the time she came in. I would not make a psychiatric diagnosis, this is a diagnosis of organic dysfunction of the brain.
Q. Do you have an opinion as to what was causing her compromised mental status as documented by what you just read to me from the surgical resident's progress note?
A. Yes.
Q. What is that opinion?
A. The opinion is that she was compromised by a severe episode of intra-abdominal bacterial infection.
Q. Dr. Holzman, do you have an opinion regarding Dr. Sonpal's standard of care as pertains to his care and treatment of Carolyn Yarborough?
A. I have an opinion.
Q. Do you have an opinion regarding Dr. Bass' standard of care as relates to his care and

treatment of Carolyn Yarborough?
A, Yes, I do.
Q. Do you have an opinion as to the mechanism that triggered or was the proximate cause of Miss Yarborough's death?
A. I would need to understand I think a little more about what is meant by the legal definition of proximate cause.
I think I have a good understanding what the medical causes were in her death, the underlying causes and the immediate causes. I'm not sure I can comment on whether that meets your definition of proximate cause or not.
Q. I'm going to revisit this subject.
Is it fair for me to summarize your testimony, you do have opinions as to what the cause --
A. I have opinions on the cause of her death, yes.
Q. Let me ask you first, Doctor, whether you have an opinion as to whether or not the employees of Candlewood Nursing Home acted within the accepted standard of care in their treatment of Miss Yarborough?
A. I did review their records. As far as I can

see they were acting within accepted standard of care for nursing homes.

Q. You indicated to me that you weren't certain about the legal definition of proximate cause.

A. I think that is correct.

Q. So is it fair to say then you've not had any training in law or attended law school?

A. That is correct.

Q. Do you have an impression as to what the term medical malpractice means?

A. Yes.

Q. What is your understanding of the term medical malpractice?

A. Broadly it is the causing of damage through negligence in the sense of neglecting to do something that a careful, prudent physician would do.

Q. Do you agree with me, Doctor, that different physicians, well trained, conscientious physicians can see a given patient, have different opinions how that patient is treated, none of them are necessarily committing malpractice?

A. Yes, I would agree with that.

Q. Do you agree then in the care and treatment of patients, in patients such as Miss Yarborough,

that physicians must make judgment decisions as to how a patient is treated?

A. Yes.

Q. You have indicated to me you do have opinions as to Dr. Bass, his standard of care in his treatment of Miss Yarborough.

Doctor, would you please tell me your opinion as to whether or not Dr. Bass committed medical malpractice in his care and treatment of Miss Yarborough.

A. Using the definition that I gave, I believe that he did.

Q. What do you believe constituted Dr. Bass' medical malpractice?

A. I believe that the essential part of it was the failure to evaluate the entire prior course of the patient in deciding on the presence or absence, or the possibility of the presence of intra-abdominal infection persisting after the surgery.

Q. Is there any other conduct on the part of Dr. Bass which you feel constituted medical malpractice?

A. I need to review my original report to make sure I haven't left anything out.

Q. Please do.

Am In the first report that I made, which is dated September 1st of **1997**, I stated that Dr. Bass, to paraphrase, failed to call attention to the results of prior intraoperative cultures and the need for additional antibiotic coverage.

On my report of January **31st** I stated that he deviated from generally accepted standard of medical care in accepting the surgeon's opinion the patient did not have ongoing intra-abdominal sepsis, based on his deposition. Consequently the limit of the consultation, the failure to look at the wound, the failure to evaluate in a comprehensive manner all the data I think is a restatement basically of what I said before.

Q. Am 1 correct your criticisms of Dr. Bass' conduct are three-fold: Failure to call attention to the prior intraoperative culture, failure to call attention to the need of the additional antibiotic coverage, failure to evaluate the entire prior case of the patient in deciding on the presence or absence of intra-abdominal infection?

Am I believe those are interlocked; but yes, that is the essence of it.

Q. If I can make it more succinct then: Is the essence of your opinion that Dr. Bass committed medical malpractice because he failed to look at the entire picture in rendering his consultation on this patient?

A. Yes, I think that is the essence of it.

Q. So then would I be correct to say, Doctor, that if Dr. Bass had considered Miss Yarborough's entire prior course of treatment and care, then he would have complied with the appropriate standard of care in rendering his infectious disease consultation?

A. That I have no way of knowing.

Q. I want you to assume for me that Dr. Bass had reviewed Miss Yarborough's prior course of care and treatment from the time of her admission until the time of his consultation.

Assuming that conduct by Dr. Bass, would you agree with me then that he complied with the accepted standard of care in rendering his infectious disease consultation?

A. No, I would not.

Q. Why not?

A. Because in addition to the act of reviewing the documentation in the course, there is also a

judgmental issue as to how to evaluate it.

I understand that there is a difference between differing opinions, differing judgment about a circumstance, I think that there is a point where judgment -- it goes to the question of what kind of judgment as I said, a prudent, careful physician would make.

I think in the circumstances that a review by a prudent, careful physician would have led to the judgment that additional antibiotics were warranted or at least investigation for further infection was warranted. My judgment is that a careful physician would have given additional antibiotics.

Q. Would you agree with me, Doctor, that the decision of whether or not to administer antibiotics following an evaluation of a patient's prior course is a judgment that does not necessarily constitute medical malpractice or medical negligence?

A. No, I wouldn't agree with that statement as you phrased it,

Q. Your opinion then, Dr. Bass' failure to administer antibiotics is not a judgment but rather an act that constitutes medical malpractice or

medical negligence?

A. His failure to recommend additional antibiotics and his failure to recommend additional evaluation of the abdomen is beyond a question of simple judgment about medical issues.

Q. What additional antibiotics in your opinion should Dr. Bass have recommended?

A. There isn't a single regimen which would be recommended to the exclusion of all others.

The general idea would have been to add or substitute antibiotics which were effective against the organisms which had been found both in the wound and in the abdomen at surgery.

Q. So in your opinion, Dr. Bass should have recommended a regimen of antibiotic treatment that would have included coverage for Enterococcus and Candida?

A. Yes.

Q. What additional evaluation of the abdomen in your opinion should Dr. Bass have undertaken?

A. There are a couple of things that could have been recommended,

I think the major one would be to suggest repeating the CT scan at some time. Since she just had one approximately three days earlier

if my memory serves, to repeat it at a suitable time in the future to assess the development of infection in the abdomen or progress of any infection in the abdomen.

Depending on the wound examination, one might have recommended additional exploration of the wound. Since I didn't see the wound and Dr. Bass did see the wound, I don't consider his failure to make that recommendation a deviation from good standards of practice.

Q. Do you have any reason to disagree, Dr. Holzman, with the documentation of the physicians who saw this patient in describing the wound as healing?

A. It depends on where it's described in the chart over time. I have no real disagreement with the descriptions, I think the descriptions are consistent with an infection within the wound which was apparently responding to therapy.

Q. Before I go --

A. There are a number of descriptions that say that most of the wound is healing, there is a part of the wound in which the healing is poor, It's clear on the CT scan where the wound can be visualized that the wound is open, isn't a closed

wound, so there easily could be superficial infection on the wound or in the tissue around the wound.

Q. Do you have an opinion to a reasonable degree of medical certainty as to whether or not there was a superficial infection in the wound?

A. I think to a very -- I think we can be very certain there was an infection in the wound at a point after the surgery, that that infection appeared to be coming under control. I think that is well described in the chart.

Q. Before I move on, Doctor, I want to make sure I understand your opinions as it relates to Dr. Bass' management of Miss Yarborough.

Am I correct to say your opinions are that Dr. Bass acted below the standard of care in number one, failing to evaluate Miss Yarborough's entire course of treatment prior to his seeing her for consultation; number two, in failing to recommend a CT scan; number three, in failing to institute antibiotic therapy specific for Enterococcus and Candida?

A. I definitely agree with the first two. On the third, the question is who is responsible for instituting it.

I think the failure is the failure to make a recommendation or discuss the possibility. I'm not sure he was writing orders in the chart and prescribing the antibiotics himself.

Q. Understanding then that you have modified my third point to failure to recommend antibiotics specific for Enterococcus and Candida, have I accurately set forth your opinions relating to Dr. Bass' care and treatment of Miss Yarborough?

A. Yes, you have.

Q. Am I also correct that you do not hold an opinion as to whether or not Dr. Bass should have recommended additional exploration of the wound given that you did not see the wound?

A. That is correct.

Q. Dr. Holzman, have you physically reviewed the CT film we've been talking about?

A. Yes, I have,

Q. Do you agree or disagree with the radiologist's interpretation of that CT scan?

A. Let me turn to the radiologist's interpretation so I can be sure, that was one area I wanted to call attention to.

The CT talks about ascites throughout the abdomen with stranding of mesentery

fat. My understanding of the statement about stranding of the fat is that what you are seeing is fluid in the fatty tissue and spreading the fatty tissue, creating the strands.

If you look at the CT views, it appears to me that most of that is just below the wound in the area where the surgeons talk about the wound having an infection.

What bothered me about looking at the CT was given this lady's dosage of steroids, I felt the picture was not inconsistent with the possibility that there was more extensive infection under the skin. I would not make a stronger statement than that.

This is the kind of film, for example, that I would take and go back to the radiologist and say is there any possibility that this represents infection, as opposed to a simple fluid accumulation given she is on a high dose of steroids.

Q. Doctor, am I correct to say then that you would disagree that the CT scan is reassuring for this patient as it relates to her progress postoperatively?

A. Well, it's reassuring to the extent that it

doesn't show a large accumulation of dye; it's not reassuring in the sense that you can't give it great weight in excluding infection in the abdomen.

Q. Dr. Holzman, I'm correct you are not a radiologist?

A. You are correct.

Q. Indeed am I also correct you defer reading of CT scans for diagnoses to a radiologist?

A. I think I just express that I would go and ask the radiologist.

Q. Forgive me for my redundancy, Doctor, sometimes things aren't as clear to me.

We have spoken about the three areas in which you are critical of Dr. Bass' conduct. I'm going to return to the original question I asked you which prompted us to explore further your opinion.

My question is as related to the first area in which you are critical, that being Dr. Bass' evaluation of her prior course, would you agree with me that if Dr. Bass had reviewed her entire course of treatment, then to the extent that you are critical of his failure to do so, your opinion would change?

A. The opinion as to whether he didn't review it, if there was evidence he did review, yes, my opinion would change.

Q. Would I be correct in saying if he did review her entire prior course of treatment, then you would not have an opinion that he acted below the standard of care?

A, With respect to that act, yes,

Q. Again, because things aren't always as clear to me, if he had reviewed her prior course of treatment then his conduct would have been appropriate as relates to that criticism that you have?

A, To the extent that my criticism is he failed to review. If it can be documented or proven he did review, I was provided with that documentation, I would change my opinion that that was failure to meet good standards,

I would still be holding the opinion that having reviewed it, coming to the conclusion that no action was necessary falls below what I would consider borderline between a judgment call and a prudent medical practice,

Q. What conduct in your opinion should Dr. Bass have undertaken to evaluate Miss Yarborough's prior

course of treatment?

A. I think he should have reviewed temperature, white count, culture results, CT scan measurements of renal and liver function that are present in the chart, the history of prior steroid usage, the current medications. There may be others, those are the things that come immediately to mind.

Q. As relates to your second point of criticism, that being that antibiotics specific for Enterococcus and Candida should have been administered, would your opinion change if Miss Yarborough had not been immunosuppressed because of corticosteroid medications?

A. My opinion as to the time the medication should have been administered might change based upon her presence or absence of steroid therapy. I think at the point Dr. Bass reviewed the chart it would not change.

The time that Dr. Bass was called in, regardless of whether she was or wasn't on steroid therapy, it would have been appropriate to make the recommendation.

Q. Why?

A. I can use a visual aid to show you why.

Q. Certainly.

A. This represents a chart.
Q. Hold on a second, I can't see your chart. Hold on one second.
A. The chart really represents two features of her care. This is the time of admission and these are the days of hospitalization. Days of admission, this is her admission to the hospital and her surgery. Then this is the time of discharge.

During this period of time the line that starts here represents her white blood cell count. The line that starts here represented her temperature. The line, this big arrow represents the duration of antibiotic usage.

Q. Okay.
A. Her temperature initially fell down to this level that represented, if I can, a temperature of -- oral temperature of about 97 and a half, which represents a rectal temperature of 98 and a half, which would be normal temperature.

Shortly after it fell, a day or two later, the temperature went up again. The white count went up again, picked up here at **26,000**, if I remember right, then it fell; that occurred on the 16th of January.

I think there are probably three critical decision points in the course of this patient that we're talking about.

The first critical decision point occurs on the 14th where the results of the cultures become available.

I think the second critical decision point occurs on the 16th, when her temperature rises again. The chart does not really document any new source of fever other than her original condition.

The third potential decision point is around the 22nd, which was when Dr. Bass did his consultation, at which time the white count was just starting to fall. You can see the temperature had just peaked again, that was right here.

My contention would be, and the reason, to go back and answer your question, given that she was on a high dosage of steroids, given that she did grow the Candida out of the initial culture mixture, my own belief is that it would have been appropriate to change the antibiotics on the receipt of the cultures; however, I do recognize there would be differences of opinion about this.

On the 16th, when the temperature rises again, the white count rises again, I think that any prudent physician would have instituted treatment at that point, failing to find some other explanation for fever.

When Dr. Bass came in, what I am essentially criticizing him for is reviewing this chart or reviewing the data from which the chart is obtained, failing to observe those, the persisting fever and the prior elevation in white count.

Q. Doctor, would you please make available a copy of that chart to Miss Kolis?

A. She has -- you have a copy.

MISS KOLIS: Yes.

Q. Doctor, could you tell me who created or developed that chart?

A. I did.

Q. I want to return to my original question, Doctor, which was whether or not you would be critical of Dr. Bass for failing to recommend antibiotic coverage specific for Enterococcus and Candida on the day he saw the patient if the patient was not immunosuppressed?

A. I think the answer to that is that 1 would be critical of him whether or not the patient was

immunosuppressed at that point. I do have to say though that I have to condition that. This patient was immunosuppressed. It's very difficult for me to say if she were not immunosuppressed what she would have looked like on that day.

Q. Doctor --

A. Let me finish.

For example, part of her white count elevation is due to the steroid administration as well as to the presence of infection, so that someone with these white counts without steroids to boost them would be much more obviously thought of as having infection, would have been -- what I'm trying to say is that if you take out the steroids, don't change any of the clinical data, the patient looks much sicker than she would look if you know for a fact the clinical data, the laboratory tests are the same, she is receiving steroids.

Q. Let's talk about labeling that then.

How does immunosuppression affect a white blood cell count?

A. Immunosuppression may or may not affect the white blood cell count. Reduction in white blood cell below a certain level may be

immunosuppressive.

Steroids have an effect on the white blood cell count because they affect the ability of white blood cells to attach to blood vessels.

Normally in the blood stream about half the circulating white blood cells are not circulating, they are actually stuck on to the wall of blood vessels. What steroids do is release those white blood cells, resulting in approximate doubling of the normal white count.

Q. So if the patient is on steroids we would expect to see an elevation in white blood cell count?

A. Right. If you considered an average white blood cell count to be in the range of **7,500** to **8,000**, usually the range is 5 to **10**, you might expect an average elevation of about **15,000**.

Q. Is it not also true when a patient who is on steroids receives antibiotics, then that patient is also going to reflect perhaps a higher white blood cell count because of administration of antibiotics?

A. I think you may have misphrased that.

Q. I may.

A. I do not agree with --
Q. Correct my understanding of the relationship between the administration of antibiotics in a patient who is receiving corticosteroids.
A. Antibiotics have no effect on the white cell count of an uninfected patient. If you have a volunteer, you give them Penicillin or Tetracycline, it doesn't change the white count.
If you have a patient who has an elevated white count because they have an infection, by treating the infection the antibiotics lower the white count.
Q. Would you agree that the administration of antibiotics changes the microbial flora, has an impact on organisms?
A. Yes, I would.
Q. What impact does it have on organisms?
THE WITNESS: Do you want to make an objection?
MISS KOLIS: I want to make an objection. I can tell by the look on his face he was puzzled by the question. Do you want him to give, Marilena, a general medical explanation how the flora changes, or do you want it specifically in this case as to antibiotics she received?

MISS DISILVIO: I would like to know generally, then I'll talk about this case.

MISS KOLIS: That's fine.

A. In general the administration of antibiotics in high dosage -- there is an impact of dosage as well as the spectrum of activity. The antibiotic inhibits the growth of those organisms that are normally found in the body, or at least many of the organisms normally found in the body along the gastrointestinal tract.

Those organisms, including both bacteria and yeasts that are not affected by the antibiotics then are favorably affected by the absence of those other organisms, they have greater access to nutrients. They are not under the influence of inhibitory chemicals that are being produced by the other organisms, they can begin to grow and take up a greater proportion of the total number of organisms that are alive in the intestinal tract.

Q. In this case, given the antibiotics that Miss Yarborough was given for 10 days, how did those antibiotics affect or change the microbial flora?

A. I can only answer that in a generality since

there were no actual cultures that were done from the intestine that describe the measured changes.

One would anticipate that you would have an overgrowth of organisms that would be resistent to those antibiotics that she was given.

The two organisms that were found at her autopsy, and at her readmission to the hospital at the end of January are two examples that you would expect to find.

There are other organisms that would similarly be resistent to those, You could have a long list of organisms. The general principle is that organisms with -- against which those antibiotics lack activity, would be favorably influenced, would grow.

Q. Let's change the focus for a moment, Doctor, talk about Miss Yarborough's unfortunate death.

In your opinion, what was the direct precipitating cause of her death?

A. The cause of her death was complication of septic shock.

Q. What caused the septic shock?

A, Intra-abdominal infection due to Candida and Enterococcus.

Q. What is the significance of the positive

urine culture at Meridia Huron Road Hospital when Miss Yarborough was brought in on January 30th?
A. I believe that it's a concurrent infection that is of no relevance, a different organism I think.
Q. Why is it a different organism?
A. It has a different sensitivity pattern.
Q. Again, forgive my ignorance, Doctor, what changes the Enterococcus that is found at the time of death from the Enterococcus found in the urine culture?
A. I have another table. I don't know if you can focus in on that.
MISS KOLIS: You can read it to them. 1'11 send them a copy.
A. Basically in the medical record there were three Enterococcal organisms isolated on the 10th of January from the abdominal fluid.
There was the Enterococcus, that was identified as Enterococcus faecium, which is one of the three or four species of Enterococcus that are medically important; that organism was resistent to Penicillin. It was resistent to something called Streptococcal synergy testing, which I can describe if you want me to.

The second isolet in the chart was obtained from the blood on the 30th of the month, it was also identified as Enterococcus but it was not identified to the level of a species, just to the level of genus. One can't say it was or wasn't Enterococcus faecium. That organism was tested to Ampicillin, a drug with the same activity as Penicillin, even more potency, it was resistent to the Ampicillin. Also resistent to Streptococcal synergy testing. It matched the one identified in the abdominal fluid earlier.

The isolet in the urine was identified as Enterococcus, not speciated. That organism tested sensitive to Penicillin. It tested as sensitive in the Strep synergy test.

Because of those two test differences I concluded it was more likely than not that that organism was a different organism than the organism in the blood stream. More likely than not it was a different organism than the organism in the abdominal fluid. That is why there was a urinary infection, I don't believe it played any role in this patient's demise.

Q. Do you have an opinion as to whether or not the Enterococcus species found in the blood was the

same strand or species of Enterococcus found in the abdominal area?

A. I think more likely than not it was.

Q. You've indicated to me that it is your opinion Miss Yarborough's direct precipitating cause of death was a result of complication of septic shock due to intra-abdominal infection from Candida and Enterococcus; is that correct?

A. That's correct.

Q. Are you able to tell me, Doctor, which of those organisms, Candida or Enterococcus, was the trigger for Miss Yarborough's death, if at all?

A. I'm not sure I can separate them out, say one was more important than the other. I think they both were important organisms. I'm not sure I can say one was more important than the other.

Q. How is Candida a mechanism for death?

A. The answer to that is fairly complicated and not fully known.

Candida can produce a clinical state very similar to that produced by bacteria that are called gram negative bacteria on the basis of their ability to stain with a certain color with a stain that is used in a microbiology lab and visualized. They produce an activation -- they

produce as a result of the sugar molecules that coat the capsule of the yeast an activation in the blood clotting system of the body, an inflammatory response that results in the body producing substances known as cytokines, which actually produce tissue damage.

Death is the consequence of activation of these systems without control in the body. The result of that is the inability of the body to maintain its circulation, the blood pressure drops, the vital organs that depend on blood for their oxygen supply, such as the brain, kidney, liver, virtually all the tissues of the body die because they can't get enough oxygen.

Q. What is the mechanism by which Enterococcus causes death?

A. Broadly a similar mechanism again. The chain, it's not a completely known chain of events, every biochemical reaction in this has not been worked out. Broadly speaking, by growing and producing chemicals that arouse the body's inflammatory responses, to an extent that the body cannot regulate those responses, the body kills itself.

Q. Am I correct to understand that when bacteria

causes death, we classify that as septicemia?

A. Septicemia is a term which generally means two things: The presence of usually bacteria in the blood, if it was a yeast in the blood then we call it fungemia.

There is a distinction made between bacteremia, which means the presence of bacteria in the blood, and septicemia which is the presence of bacteria in the blood combined with the systemic reaction illness that results as a consequence from it. When the illness progresses to the point the body can't maintain its blood pressure it is septic shock.

Q. Can we agree Miss Yarborough had septicemia?

A. Yes.

Q. We can agree she had the presence of bacteria in her blood, not the presence of fungus in her blood?

A. We can agree on that.

Q. What is Candidiasis?

A, It's not one thing. Candidiasis is a term which means disease produced by Candida,

At one extreme Candidiasis could be overgrowth of Candida in the mouth resulting in a disease called thrush. At the other extreme

disseminated Candidiasis is a disease in which Candida gains access to the blood stream, causes abscesses throughout the body.

There is a whole spectrum of diseases between those two extremes, all of which fit under the term Candidiasis.

Q. In your opinion did Miss Yarborough have Candidiasis?

A. She had disease due to Candida. I would not have termed it Candidiasis. I think she had an intra-abdominal abscess due to Candida. I would not have said she did not have a disseminated Candidiasis if that is the import of the question, I don't believe she had that disease.

Q. Doctor, if we know that Miss Yarborough had septicemia as manifested by Enterococcus in her blood culture, isn't it fair to say it's more likely than not Enterococcus was the triggering organism that led to her death?

A. No. No, in my experience it is not unusual to have a mixture of organisms in an abdominal infection, only have one or two of those organisms actually gain access to the blood stream. I think in fact that was the case on her admission if you compare her initial blood cultures on the 9th and

the 10th to the results of the cultures in the abdomen at that time, I think that is a fairly typical situation.

Q. So that it's your opinion that her cause of death was a result of two organisms contributing to an abdominal infection?

A. At least two organisms, may have been other organisms present that weren't cultured at the time of her second admission, I'm not sure, if I can go back to my report.

Q. Let me refocus my question, Doctor.

I'm trying to determine and understand is it your opinion that as it relates to the cause of death the findings noted on blood culture are essentially insignificant because they did not cause or contribute to her death?

A. No, the organism that was present in the blood culture contributed to her death. It was not the only organism that contributed to her death.

Q. What is septic splenitis?

A. The condition -- it's usually an autopsy or radiologic term for a large congested spleen that is found during the course of an infection, Part of the systemic response to the body's response to infection.

Q. Is that more likely due to the bacterial infection or more likely due to fungal infection, or can you give me an opinion as to that?
A. I don't think you can make that distinction.
Q. Do you agree with me, Doctor, all infections are associated with residual persistent organisms?
A. That all infection are?
Q. Residual persistent organisms?
A. No, I don't agree with that.
Q. Why not?
A. Because I don't think there is evidence that it's true.
Q. Do you agree with me the existence or nonexistence of Candida in the wound does not indicate what is going on in the abdomen itself?
A. I would agree with that.
Q. Do you agree with me where cellular immunity is compromised there is increased severity of infection?
A. You have to define severity for me in that.
Q. In the manner that I have just stated it though, you can't agree or disagree with that statement?
A. I can't agree or disagree with it the way you stated.

Q. Do you agree with a patient with Candida with an indwelling catheter will have a spontaneous resolution simultaneous with the removal of the catheter?

A. Many will, a few won't. I've actually published on that.

Q. Do you agree this patient, Carolyn Yarborough, was at risk for developing a super infection if antibiotics had been administered to cover for Enterococcus?

A. Absolutely. She was at risk for it had they not been administered to cover the Enterococcus.

If you are asking -- let me ask a question because I'm not sure I understand the question you are asking.

She was at risk for super infection whether or not she was treated with the additional antibiotics. The question is are you asking a general question or are you asking me whether or not she was at increased risk compared to the situation had they not been administered?

Q. Let's go back a step.

You agree with me she was at risk for super infection?

A. I do.

Q. Am 1 to understand that it's your testimony that her risk was greater than the risk of super infection had additional antibiotics not been administered?

A, Given that the antibiotics would be continued for the same period of time, I don't believe she would have been at a higher risk had her antibiotic regimen been changed.

She got 10 days of antibiotic therapy; had that therapy been continued for a longer period, her risk of super infection would have risen; had they been switched on the 14th, 16th or 22nd, continued for the same period of time, whatever it might be, I don't believe there would be a substantial alteration in the increase in risk.

Q. Do you have an opinion as to whether or not Carolyn Yarborough would have succumbed to sepsis if even she was treated with antibiotics sensitive to Enterococcus and an antifungal?

A, At what point?

Q. Let's go back to the third point you identified.

A. Okay.

Q. I believe you identified three critical

decision points. On January 14th?
A. Correct, 16th and 22nd.
Q. If antibiotics specific to Enterococcus and Candida had been started on that day, do you have an opinion as to whether or not she would have succumbed to sepsis anyway?
A, I think had they been switched it's more likely than not she would have survived had she been treated on the 14th.
Q. Let's look to the 16th now.
I'm asking you the same question, if antibiotics had been changed to include antibiotics that cover for Enterococcus and Candida on the 16th, would Carolyn Yarborough have succumbed to sepsis?
A. I think again at that point more likely than not she would not.
Q. Asking you the same question about January 23rd, do you have an opinion whether or not Carolyn Yarborough would have succumbed to sepsis even if she had been treated with antibiotics sensitive to Enterococcus and Candida on January 23rd?
A. I think more likely than not she would have but I have to say there it is close, I think I

have to say if you ask me at that point is her survival likelihood better than 50/50, I think it probably was.

Q. At what point does her survivability become less than 50/50?

A. I think on her readmission, probably in the day before her readmission, which would be the 29th and 30th, if I have the dates right.

Q. Correct.

Doctor, would you agree with me on January 23rd when Dr. Bass saw this patient, her white blood cell count was on a downward trend?

A. Yes, I would agree with that.

Q. Would you agree with me that her surgical wound was indeed healing on the day that Dr. Bass saw the patient, January 23rd?

A. Most of it was healing. It did appear to be a superficial infection in the wound at the time he saw it, or at least he called it surface contamination.

Basically his impression of the wound was if there was infection there, infection here being growth of bacteria, it was out on the surface. I would agree that the wound was healing. It wasn't a healed wound, it was in the

process.
Q. Do you agree with me on the day that Dr. Bass saw the patient, January 23rd, that she was generally looking well, despite the fact she had undergone a serious surgery and was at risk €or death simply from her bowel perforation?
a. I would agree with that. I would also comment that's a well known effect of steroids.
Q. Would you agree with me on the day that Dr. Bass saw this patient on January 23rd, a CT scan had been obtained three days earlier which was reassuring regarding this patient's progress?
A. Only to the limited extent I think I commented previously. It was only reassuring to a very limited extent. I would qualify my agreement with you on that.
Q. Would you agree with me that on the day that Dr. Bass saw this patient, that her clinical picture did not indicate signs or symptoms consistent with an infection?
A. I can consult --
MISS KOLIS: Something you don't understand?
A. I want to consult the record. I want to take a look at that chart, if I could.

Could you repeat the question again, I want to be precise.

Q. Given those factors that we just talked about, the white blood cell count, the wound healing, generally appearing well, the CT scan, et cetera, would you agree with me that on January 23rd, the only day Dr. Bass saw this patient, her clinical picture did not indicate signs of infection?

A. I would agree with you on that day there were no signs of infection.

Q. Would you agree with me that in removing Miss Yarborough's Foley catheter, ordering repeat urine culture, Dr. Bass' conduct was appropriate?

A. I would agree.

Q. Dr. Holzman, do you consider Miss Yarborough's white blood cell counts to be reliable in evaluating her for signs and symptoms of infection?

A. Can I ask what you mean by reliable?

Q. Would you look to her white blood cell count if you were evaluating this patient to determine whether or not she had signs and symptoms of infection?

A. Yes, if they were interpreted with knowledge

of her steroid usage at the time.

Q. Help me to understand, would I then expect to see a higher white blood cell count in a patient like Miss Yarborough if she was brewing an infection?

A. You might.

Q. What do you mean by might?

A. Might not.

Q. Why is that?

A. Some patients will -- I already said that steroids raise the white count. You can have an elevation beyond the steroid effect in the presence of severe infection, you can have no apparent elevation in the presence of infection.

There are two things that one has to look at when one is looking at the blood count. One has to look at the balance in the blood stream between production rates and removal rates. If removal rate exceeds production rate the white count goes down.

That's the -- let me show you again the diagram I did originally. Just again this is her admission record. Steroids were begun back here, continued through the time she was in the hospital. The time she came in her white blood

cell count was down below **5,000**. The white blood cell count rose, continued to rise so you didn't see the steroid effect you would expect in somebody without infection from steroids until about the 14th of the month.

She was clearly infected here. We know she had a big infection in her abdomen at that time because they opened it, found it, cultured it.

The reason the white count is low is that the demand to move white blood cells into that area of infection exceeded her marrow's ability to put white blood cells into the stream. Like emptying a sink, having a faucet running. If you are emptying faster than the water is pouring in, the sink will empty; if you are pouring water in the sink faster than you are emptying the sink, the sink will overflow, that is what happened with the white blood cell count.

If you look at the differential white blood cell count during this interval, you see they show a tremendous increase of immature white blood cells, that is the marker of the bone marrow pushing its reserves into the blood stream. That's what happened in this case.

So the woman had severe infection, her white cell count was down. What I'm trying to say to you is it isn't the simple interpretation of the white cell count up, infection; white cell count normal, no infection. You also have to look at what is happening in the marrow, what is happening to demand, whether there is what is called in the differential a shift to the left, which is an increase in the number of immature forms in the blood stream.

Q. Of course, Doctor -- I'm sorry, I'm going to let you finish.

A. Okay. I'm finished.

Q. You also want to look at the patient, correct?

A. Yes.

Q. When Miss Yarborough was admitted to Meridia Huron Hospital, she was infected, correct?

A. When she was admitted to the nursing home on the 30th.

Q. That's correct?

A. Yes, she was infected.

Q. Do you agree her white blood cell count of 44 on that day was consistent with infection?

A. Yes, I do.

Q. Had you seen this patient on January 23rd instead of Dr. Bass, other than what he did, what additional steps would you have taken?

A. It's a hypothetical question, I guess. It's very difficult to put myself in that position without knowing what went on subsequently since I do know what went on subsequently.

In trying to put myself in that position as best I can, which is I think part of what I was asked to do as a consultant in evaluating Dr. Bass' conduct, I think that I would have recommended additional treatment, additional investigation.

Q. What specific additional treatment would you have recommended?

A. I think that I would have recommended the reinstitution of -- it would depend, it's a complex answer what I would have recommended depending somewhat on what I know about at the institution and at the particular hospital, Different hospitals have a different pattern of sensitivity among organisms, different germs have different importance in a hospital's infection.

One regimen that I would potentially have recommended would have been the

addition of or the reinstitution of Gentamycin The institution of a drug known as Ampicillin, Sulbactam, commercially known as Unasyn. A drug known as Fluconazole or Diflucan. I probably would have recommended treating with those drugs for seven days or so and repeat the CT scan.

Q. What is your opinion as to when the abdominal infection which you attribute to the cause of Miss Yarborough's death began to develop?

A. Began to develop at the time the perforation occurred.

Q. Was she treated at any time during the hospital admission for either of those two organisms?

A. No.

Q. Why then is it, Doctor, that Miss Yarborough did not present as an ill patient before January 30th if she was never treated for the two organisms which ultimately led to her demise in your opinion?

A. Why didn't she present as an ill patient. I think she did present as an ill patient. I don't find any problem in the timing of these infections. I think there was evidence that as soon as they stopped the antibiotics that the

infection began to grow.
Q. If I understand correctly, while those antibiotics were being administered it allowed for the proliferation of organisms that were not -- that those antibiotics did not target, correct?
A. That's correct.
Q. Those antibiotics did not target Enterococcus and Candida, correct?
A. That's correct.
Q. So then those organisms would have continued to proliferate even more so in the presence of antibiotics, correct?
A. But they may not have started as a primary or major component of the infection. Indeed they almost certainly weren't a major component of the infection on the 9th or 10th of January.
Q. Certainly as the antibiotics were being administered those organisms proliferated?
A. Right. And typically they would become a problem five to eight days after or even a little longer after the initial event, that is I think exactly what happened here.
Q. Why then is it we don't see the white count of 44 that we see at the time Miss Yarborough admitted to Meridia Huron five to eight days after

the event?

A. Because you can have an intra-abdominal infection present, active and causing problems without having septicemia. There is not an inconsistency there.

Lots of people who develop the kinds of infections that this lady showed at her autopsy have quite prolonged courses without septicemia. It's entirely possible that what happened was that somewhere around the 28th or 29th, at the time she was in the nursing home, that an infection was relatively contained in her abdomen, that is in the area around the liver, as it was shown at autopsy; broke through the wall of tissue that was containing it as part of the natural history of the infection, spread to the rest of her peritoneum, where a new additional inflammatory response occurred, which caused fluid to come into the belly out of her blood stream, lower her volume of blood, lower her blood pressure, permitted organisms to grow and resulted in the septicemic symptoms that caused her admission to the hospital.

Q. As we speak in the realm of possibilities, Doctor, isn't it also possible that subsequent to

transfer to the nursing home these organisms escaped from Miss Yarborough's jejunum in the presence of the transmural ischemia that developed?

A. My reading of the autopsy results makes that less likely. I think that it is more likely than not that the findings in the jejunum were secondary to the loss of blood pressure that resulted in her brain death, resulted in death of other tissues in her body.

Q. Is it also not true -- it is more likely than not that we would expect to see what occurred at Meridia Huron on January 30th to have occurred five to eight days following the initial soilage of the peritoneum?

A. No. No, that is not what I said. What I said was that these organisms would manifest themselves as a secondary or super infection, which is what the term super infection means; second episode of infection with new germs about five to eight days later, I believe that that is what is happening.

I believe that there was a persisting low grade fever that occurred following an initial response, I think that is an absolutely classical finding for persisting intra-abdominal

infection.

Q. Other than the persisting low grade fever, what other proof do you have that there was the super infection going on five to eight days after initial soilage?

Q. After the antibiotics were discontinued there was a progressive change in differential cell counts, I can illustrate that as well. I have a second chart which I can show you.

This chart shows a bar for each day and the bar represents 100 percent of the circulating cells. The three different patterns represent the really three broad classes of blood cells.

The first two represent the two types of polymorphonucleated leukocytes, the infection fighters. The darker pattern represents immature forms. The lighter pattern the mature forms. The cells, other cells in the blood that are not actively ingesting cells that help to fight infection in less direct ways are this top group here. Each bar adds to 100 percent.

Across that I've put a graph of the white blood cell counts, total white blood cell count. Sou can see when she came in there was a

very low white blood cell count and of those the bulk of them are infection fighters. The bulk of them are young ones. This shows what a tremendous demand on the bone marrow this infection is making.

As time continued the white cell count rose, the proportion of cells that are mature cells dropped down. You can see that the balance reflects two things.

First off the marrow has some ability to turn itself up to improve its work, second, the infection was coming under control. It was severe, it became milder with the advent of antibiotics and surgery, There is evidence of improvement here.

There were a couple of episodes where there was fever, the white count rose, there was an increase in juvenile cells in between, that's what I'm talking about in terms of the manifesting of intra-abdominal infection secondarily.

The antibiotics were stopped around the 20th. Gentamycin I think continued through the 21st a little bit. At this point at which antibiotics are stopped you can see it's also the

point where the white count begins to fall. Also the point immature cells begin to increase. I think this chart reflects the ongoing presence of intra-abdominal infection, documents that the infection began to get worse when the antibiotics were discontinued.

MISS DISILVIO: Doctor, could we take a break for a few moments, please.

THE WITNESS: Sure could.

MISS ROLIS: Thanks, I need one,

(Recess had.)

BY MISS DISILVIO:

Q. Doctor, have we seen all of the charts you have prepared or developed?

A, I actually have made a couple of others, they reduplicate the data. There is nothing -- for example, I made a line chart of the bar chart that I just showed you, There is no additional information of substance that I have to present,

The answer is you've seen all the information which has been graphed. I graphed the same information in different ways.

MR. GOLDWASSER: Donna?
MISS KOLIS: Yes,
MR. GOLDWASSER: Can we pick up a copy of those charts first thing tomorrow morning?
MISS KOLIS: Yes, you can.
MR. GOLDWASSER: What time is the earliest they will be available?
MISS KOLIS: I should be in the office tomorrow morning by about quarter after 9:00.
MR. GOLDWASSER: We will have somebody there shortly thereafter if you don't mind.
MISS KOLIS: I don't mind.
MR. GOLDWASSER: Thank you so much.
MISS KOLIS: You're welcome.

BY MISS DISILVIO:

Q. Dr. Holzman, you reviewed Dr. Lerner's deposition, correct?
A. Yes, I have.
Q. I'm not going to quote you the entirety of the deposition, I'll represent to you that

Dr. Lerner testified that the usual circumstance an infectious disease person gets called in on a case such as that of Miss Yarborough, where the count remains elevated or persistently climbing, in a patient who looks as though he or she is doing well otherwise, that this is the single most important part of this case, which is that several days after antibiotics were discontinued at a time when Dr. Bass was asked to evaluate the patient her white blood cell count was coming down; do you agree with Dr. Lerner's statements?

A. I would agree that the scenario he describes as someone who was looking well, has a rising white count is a common reason for a consultation. It is certainly not the most common reason in my experience. It is a common reason.

I have to get to the second part of that, there was a second part of your question that dealt with Dr. Bass, I'm not sure I understood it. Maybe you could rephrase that part.

Q. Essentially Dr. Lerner's statement refers to the fact that Dr. Bass' conduct was entirely appropriate given that when he evaluated this woman she was looking well and her white blood cell count was coming down, which is contrary to the typical

picture as we just discussed of an immunosuppressed patient where the white count is elevated and the patient is looking well?

A. I would disagree with the usual situation of an immunosuppressed patient.

Inasmuch as I don't think I criticized Dr. Bass' conduct for his evaluation of the patient on that day, I would -- I didn't find any fault with that. I don't know how to respond to the question. It wasn't the ground on which I faulted Dr. Bass. It may be true he looked at the patient, said the patient looked good, the wound looks good, that wasn't the substance of my criticism.

Q. He looked at the patient, said the patient looks good, the white blood cell count is coming down, my recommendation is pull the Foley catheter, recheck the urine culture, may start Fluconazole, Dr. Lerner says that is appropriate, I take it you disagree?

A. Well, I think I already testified I disagree with the antibiotic management. I agreed with everything else.

Q. Dr. Holzman, what do you do as an associate professor of environmental medicine at NYU?

A. That is an associate professor of medicine and environmental medicine. I have two appointments in two departments.

I do several things. First off I administer the training program in infectious diseases. I'm senior infectious disease physician at Bellevue Hospital. 1 hold the title of hospital epidemiologist there, which means that I'm in charge of their infection control program. I'm responsible for surveillance for the hospital infection, infection control policies. I see patients with complicated infectious diseases, I train Fellows, conduct research.

Q. What do your appointments entail at Bellevue Hospital?

A. I work largely full time at Bellevue. As I say I manage for the director of the department the training program. We have a training program that trains six Fellows in infectious disease as subspecialists each year, three in each year. I would make rounds with the Fellows, see the patients, they will present cases to me, we go see the patients, we decide on management.

I also have responsibilities for setting policies in the institution for everything

as diverse as waste disposal to hand washing to the air conditioning system.

I have a number of committee appointments at the hospital. I chair the formulary committee, co-chair the infection control committee. I sit on a number of other hospital committees.

Q. What we've talked about now, that is all at Bellevue, correct?

A. That's all Bellevue.

Q. What about Tisch, if I'm pronouncing that correctly?

A. My only responsibility at Tisch is I'm a member of their infection control committee. I don't practice at Tisch. When they have an unusual infection I might go over, teaching conference of some sort, My clinical work is entirely at Bellevue.

Q. You do not do any clinical work at NYU; is that correct?

A. Bellevue is the major teaching hospital of New York University.

Q. I'm sorry, I didn't understand that,

So you're faculty --

A. Tisch Hospital is the University Hospital at

the medical center. There are three hospitals in the campus. Bellevue, Tisch and the Manhattan VA Hospital.

Q. You see patients at Bellevue?

A. I do.

Q. Is it fair to say your focus in infectious disease is on epidemiology and environmental medicine?

A. No, actually my focus -- well, my real focus is on opportunistic infections in compromised hosts, what tools I bring to the strong interest in epidemiology.

The appointment in environmental medicine was two years ago, based on work I did in the environmental control of tuberculosis. What my real -- my training is in immunology and immunodefense as well as in environmental issues.

Q. Your focus in opportunistic infections in compromised hosts deals mainly with HIV based on your publications?

A. Since 1980 it did. The last four or five years I've been dealing with environmental tuberculosis and tuberculosis in hospital in New York has been very important. My major focus throughout is in hospital acquired infection.

I started when I left my Fellowship, I started working as Bellevue's assistant epidemiologist, which again the epidemiology here is a monitoring of patterns of hospital acquired infections and management of hospital acquired infections.

Q. Dr. Holzman, have you published any articles which are directly related to the subject matter which forms the basis of this lawsuit?

A. One article I think which is indirectly related that is in the early 1970's, review of fungal endocarditis, comprised about a third of the world's literature on endocarditis at the time it occurred. In the context of doing that I did a lot of library research on Candida, of various sorts of management of Candida. It's relevant. It's quite old, but it's relevant.

Q. That's listed in your curriculum vitae, that article?

A. I believe it is. Do you have a copy of my CV? It would be -- actually there are a couple of other articles that relate to it as well. Number 12, "Candida Endocarditis and Acute Candidiasis after Gastrointestinal Surgery." I don't recall at this point if that is a full article or abstract.

Then item 16, "Fungal Endocarditis Medical and Surgical Therapy in 29 Cases."

Number 17, "Fungal Endocarditis, an Analysis, 24 Cases."

Q. Any others?

A, I guess you could argue that some of the initial description of AIDS that I was involved with had aspects of Candidiasis in it. AIDS patients were subject to Candidiasis. I suppose are not related to this, I suspect the other articles are. Looking back over the titles I don't think most of these other articles relate.

Q. Dr. Holzman, on how many occasions have you been called upon to consult on medical/legal cases?

A, You mean by lawyers outside of the hospital? I sit on the risk management committee in the hospital, I have for probably 10 to 12 years, In that context I see lots of potential litigated cases and litigated cases.

Q. Circumstances like the one right now, you are asked by an attorney to look at the chart?

A. That is different. In that circumstance for the last two years it's probably been five to eight times each year. In the eight or nine years prior to that, probably been one or two times.

Q. One or two times per year?
A. Yes.
Q. Are you listed with any professional registry or clearinghouse of experts?
A. No.
Q. How is it you came to be contacted by Miss Kolis to review this lawsuit?
A. She actually contacted the director of our department who referred her to me.
Q. Of the five to eight cases that you review per year, how many of those are on behalf of the plaintiff and how many of those are on behalf of the defendant?
A. It's close to 50/50. I actually do not have at this point a track of that.
Q. When was the last time you reviewed a case on behalf of the defendant physician or defendant hospital?
A. I'm doing that now. There is a case which is actually in trial now.
Q. Doctor, how much will you be charging us for your time in testifying today?
A. $300 an hour.
Q. That's the same rate that you charge Miss Kolis to review the records in this case?

A. No, I charge less for reviewing records $250 an hour.

Q. This year, Doctor, since the beginning of 1998, how many patients have you seen or provided consultation for with circumstances such as those Miss Yarborough presented with on January 23rd?

A. Now you are asking as a clinician, not a legal reviewer?

Q. That's correct.

A. As a clinician?

Q. Correct.

A. Since January 1st?

Q. Correct.

A. Probably four or five with significant intra-abdominal infections. I don't recall that steroid usage was a factor in any of them.

Q. Did you order antibiotic treatment for polymicrobial infections in each of those four to five infections?

A. The way the system works I'm not usually the one who actually does the ordering. I generally would make recommendations, other people will do the ordering.

The answer, to expand the question a little, in most of those cases I reviewed what

was being done, either made suggestions for change, or validated what was being done.

MISS DISILVIO: Mr. Goldwasser represents Dr. Sonpal in this lawsuit, I'm going to give him the opportunity now to ask you questions. I thank you for your time.

MR. GOLDWASSER: Can you see me, Doctor?

THE WITNESS: I can see you.

CROSS-EXAMINATION

BY MR. GOLDWASSER:

Q. Doctor, it's my understanding you are of the opinion Dr. Steven Bass in part is responsible for Miss Yarborough's death in February of 19 -- what was it, '96; is that correct?

A. Yes, I think that is correct.

Q. Is it also your opinion that Dr. Sonpal, my client, is in part responsible for Miss Yarborough's death?

A. I think that is correct too.

Q. Why?

A. Because as I previously testified, it's my belief that had both of those individuals taken different actions than were taken, the outcome

would more likely than not have been different.

It's my further belief from the chart that a careful, prudent physician would have taken different actions.

Q. What did Dr. Sonpal who was the attending physician do or not not do which constitutes medical malpractice?

A. I believe that he failed to institute antibiotic therapy to cover the bacteria that were identified in the infection at the time when the evidence that the infection was being treated satisfactorily was not present.

Q. When was that time?

A. My original report, I think that I identified that time as the 14th and 16th of the month of January.

I also in my report made some additional statements as to how I felt he deviated from accepted standard of medical care in the sense that the deposition testimony demonstrated that he had not fully evaluated her at the time of discharge.

The testimony also demonstrated that he was not aware of the impact of the use of steroids in the patient, didn't apply that

knowledge which he should have had in the evaluation of the patient's condition.

Q. What is the distinguishing feature about corticosteroids which should have alerted Dr. Sonpal to a course of treatment?

A. Not to put too fine a point on it, to say it as simply as possible, steroids mask the signs of intra-abdominal infection.

Q. Dr. Sonpal knew what the intra-abdominal infection was; did he not?

A. He knew what the infection was.

Q. Doctor, can we state in fairness that the organisms of Enterococcus and Candida which were cultured out of the abdomen in fact are organisms a surgeon would expect to see in the presence of a perforated bowel; isn't that true?

A. You would expect to see Enterococcus very regularly. Candida might not be so common.

Q. Common enough?

A. Given the location of the perforation.

Q. Was it common enough to be a surprise in the presence of a perforated bowel not to see Candida?

A8 Yes, it's common enough not to be a surprise.

Q. Candida is frequently found within the bowel; is it not?

A It is.
Q. So whether she was on corticosteroids or not, Dr. Sonpal certainly knew what organisms were present when he operated on January 10th, did he not; isn't that a reasonable assumption?
A. He knew what organisms are likely to be present. He didn't know what organisms actually were present and growing until he had the culture results.
Q. He knew what was likely to be present, he got the culture results, it reconfirmed that which is likely to be present, right?
A. It did more more than reconfirm, it demonstrated that certain organisms were present,
Q. Doctor, I don't mean to be dancing around a bush here, it demonstrated certain organisms to be present, certain organisms which Dr. Sonpal would not have been surprised to have been present in view of the fact that he operated on a perforated bowel, correct?
A. I would agree with that.
Q. Would you agree that Dr. Sonpal rightly or wrongly in your opinion, made the judgment decision not to treat those cultured out organisms; would you agree?

A. I would agree he made that decision.
Q. It is your opinion that decision was unacceptable; am I correct?
A. My opinion that judgment was based on inadequate knowledge.
Q. Why do you say that?
A. Because of Dr. Sonpal's deposition testimony, page 55, page 51, page 56 that was cited in my report.
Q. Hypothetically, Doctor, let's assume this patient was not receiving corticosteroid therapy, if hypothetically that had been true would that have been acceptable judgment not to have treated the organism of Enterococcus and Candida?
A. Given all other facts the same as they are here or given a hypothetical patient that might have looked somewhat different?

I'm not sure I can answer that question because this patient was on steroids, that conditions certain aspects of her chart, her laboratory data.

As I told the other lawyer in my deposition to her, if in fact I had a patient who wasn't on steroids who postoperatively the white count rose to 20,000, I would be very concerned

about the presence of intra-abdominal infection.

If the patient looked good, had a white count of 15,000, I knew the patient was on steroids, I think I would be very careful. I wouldn't regard that white count with the same gravity that I would if I knew the patient wasn't on steroids. I have a hard time with the hypothetical. You want to revise the hypothetical to some other patient, I can get to it.

Q. As an infectious disease person or physician, is it your opinion that this patient, whether she was on corticosteroids or not, should have been treated with antibiotics sensitive to Enterococcus and Candida on January 14th?

A. It would have been my preference to do so, I agree with the statement that many surgeons would not do so.

Q. Why do you agree with that statement that many surgeons would not do so?

A. Because I agree. I do agree that it isn't always necessary to treat every organisms one identifies. One should evaluate the patient in coming to a conclusion as to whether or not one should treat particular isolets or to maintain empiric therapy in a situation such as on

the 14th.

Q. Why is this patient unique? Why is this patient one in which the surgeon in your opinion did not have the right in accordance with acceptable standards of care to have elected not to treat the organisms?

A. On the 14th?

Q. Yes,

A. I thought I just said.

Q. It was okay?

A. I didn't agree that he didn't have the right not to do it.

Q. I misunderstood.

On the 14th it was acceptable judgment not to treat these organisms?

A. Yes. Not a judgment I agree with. Not a deviation from accepted standard to make that judgment.

Q. Why do you disagree that is acceptable judgment on the 16th?

A. Because on the 16th there was a recurrence of fever, the temperature did not stay normal; because the white count rose beyond what I would consider to be within the bounds of steroid effect,

Q. Between the 16th and 23rd of January was the

patient demonstrating clinical improvement?
A. I'm not sure I would say she demonstrated improvement as opposed to stability. I don't think there was a big change in her clinical status over that interval. She had persisting low grade fevers, she had intermittent -- she had a persistently elevated white count. I'm not sure I can make a distinction of white count between steroid effect and presence of infection. I think the evidence in the differential count was that there might be an element of infection during that period.

Can I refer, make sure I've got the dates right? I would like to look at the chart.

Yes, the 19th looks like about 8 percent bands present. During the interval I would say there was suggestive evidence that there was infection.

Q. You are basing that on the fact there is an increase in bands?

A. And presence of fever and description of infection in the wound, even though the infection in the wound doesn't look too serious.

Q. Did that differential continue to be elevated beyond an acceptable reference range between the

date you just gave -- what was that date you just gave me?

A. I'm sorry, you don't have it there. The reference range for the hospital is given as zero to 5 if I remember correctly. Clearly at the time of admission it was elevated above that level. On the 19th elevated above that level. At the time of discharge, the last two days prior to discharge it was elevated above that level. So that would be the 19th, 24th and 25th.

Q. Well, Doctor, on the 17th the bands are 1, right?

A. That's correct. Give me back the chart so I can follow it.

Yes, that's correct.

Q. That's a reassuring sign, isn't it, lab study?

A. Not as reassuring as the 19th. These change rapidly. The changes in the blood stream evolve, they evolve rapidly, not over days but over hours --

Q. Sure on the 20th --

A. -- so that you may not --

Q. Doctor, on the 20th the bands are 1; the 21st the bands are 1; 22nd the bands are 2; on the 23rd

the bands are 3; all within the acceptable reference range, are they not?

A. Yes, but they form a pattern. If you look at the one outside of the separate range, it is a fairly consistent rise. You can connect those points with a very nice line. I have another graph where they are connected with a very nice line.

Q. Doctor, in fairness, when you evaluate the standard of care of a physician perspectively rather than with the benefit you have of hindsight, you've got a patient here in which the bands are within the normal range, maybe going up one, going up another one over a course of three days, white blood count is now dropping, returning to close to normal range in a patient who is on corticosteroids; you've got a temperature chart which is demonstrating a low grade temperature, you've got a patient who feels well, looks well, who was close to death just a few days earlier; doesn't that within reason give a physician encouragement to suggest hey, I don't think this patient needs antibiotics at this point?

A. I think that ignores the fact the patient was receiving a sizeable dose of corticosteroids. I don't think that -- the answer to that is no, it

doesn't entitle him to do that because the effect of corticosteroids is to make all those things look that way. They are well known to do that.

Q. Corticosteroids don't typically influence a decrease in white blood cell count, do they?

A. Typically the white blood cell count decreases in peculiarity. The steroid dose wasn't changed, the white blood cell count was dropping during the period of time,. it's dropping for a reason other than steroids.

Typically if you put someone on steroids, their count goes up and it stays, So that the explanation for the drop has to be accounted for it. It's not the steroids that are dropping them.

Q. Forgive me, it's me,. not you.

A. Okay.

Q. You just said, if I understood you correctly, that the attending physicians must take into account the patient's clinical presentation based upon the fact she is on corticosteroids; did you not?

A. That's correct.

Q. I thought we had agreed that generally speaking the patient receiving corticosteroids will

demonstrate an elevation in the white blood count; is that true or not true?

A. I think I testified previously that the expectation is that I will take a normal blood count and double it.

Q. Now, my brain says to me here I've got a patient on corticosteroids, as a general proposition when a patient is on corticosteroids the white blood count will be elevated. Here I've got a patient on corticosteroids, her white count is coming down. Why should that not be reassuring to a surgeon?

A. Because it should be stable.

Q. What is stable?

A. It shouldn't be coming down.

Q. It should remain what, at what level?

A. 10 to 20,000.

Q. But it was coming down from 26,000?

A. Can I have the chart back?

One of the problems I think we're having is that I'm not sure I'm making any accusations of failure to act properly at this point. I'm not sure where we're going.

What you've got here is on the last two days abnormal differential counts. There is a

drop here, here is a fairly level white count during this period of time that we're discussing, then the white count began to drop.

At the time the white count began to drop the number of juveniles began to rise. What I'm saying is that this is not consistent with the effect of steroids. The effects of steroids if the white count here is elevated because of steroids, they should have stayed there.

When the count drops like this it should not be taken as a sign of improvement because the steroids ought to be keeping them up here. There is a problem with interpreting this as steroid effect or improvement in the patient.

If you are saying it's improvement in the patient, you are saying this elevation that went on from the 18th to the 23rd reflected ongoing infection in the patient, this represents improvement because the infection was getting better.

The fact is the patient went off antibiotics on the 20th, back here. So if you are arguing that, you have to argue the patient was infected the 20th, 21st and 22nd, was not being treated for the infection.

Q. The white blood count did remain at a reasonably stable level, did it not, until the 23rd?
A. Yes, it did.
Q. Then on the 23rd Dr. Bass comes in as an ID physician to offer a consultation to the surgeon, correct?
A. That's correct.
Q. Doesn't the surgeon have a right to rely upon the advice that he is receiving from the ID expert?
A. Does he have a right to rely on it? He has a right to rely on it. That right, as I understand it, doesn't obviate his responsibility to act as an independent agent. He has his own responsibilites.
Q. Doctor, if he's going to have all those responsibilities, why even bother getting somebody like you with your expertise to look at the patient if he's not going to respond to the ID expert saying keep off all antibiotics, why in the course of practice --
A. I don't recall that I rendered any criticism of him doing that. I don't think that was the issue here, that I did not criticize Dr. Sonpal for not listening or ignoring Dr. Bass' advice.
Q. You are criticizing him for not ordering

antibiotics sensitive to Enterococcus and Candida; are you not?

A. Yes, I am at specific points in time other than the ones we're discussing.

Q. So the one date that we can agree on, if I hear you correctly, in which Dr. Sonpal deviated from the standard of care was January 16th?

A. Again, if you look at the chart you say what could be done differently at what point, those were the critical points.

If something happened on the 16th, wasn't corrected on the 17th, the problem still exists, it hasn't gone away; but what you are asking me now is was Dr. Sonpal's response to the consultation note appropriate. As far as I can see his response to the consultation was appropriate. I didn't say it wasn't.

Q. That his substandard care stopped?

A. No.

Q. Why not? If it's acceptable to -- perfectly appropriate for a surgeon to follow the advice of his ID consultant, why would you state that as of January 23rd Dr. Sonpal's malpractice continued?

A. First off, because Dr. Bass' remarks were directed to the wound infection, not to the

potential treatment of additional intra-abdominal infection.

Second off, because Dr. Sondal's deviations from good medical practice, as I call it, malpractice as you or the lawyers for the plaintiff would call it, were those of his unawareness of the nature and effect of the steroid therapy that persisted through the hospitalization.

Q. I want to turn your attention to the jejunum and ischemia described by the postmortem examiner.

If I understand correctly it's your opinion that that ischemia was secondary to the lack of perfusion, which was in turn caused by the infectious process; is that true?

A. I think my deposition testimony earlier was that it is more likely than not that is the case.

Q. Doctor, if that be so, why is not there a more global ischemia involving the bowel rather than being limited to a certain small portion of the jejunum?

A. My experience with pathology in this is limited in people with ischemic colitis who don't die, but who have vascular insufficiency in the colon. It's not unusual to have skip areas or

limited areas. Those areas with the most compromised circulation are affected, other areas where the circulation is less compromised are not affected.

Again, it doesn't necessarily surprise me if there is no major obstruction to the entire mesenteric artery that is feeding the intestine that the ischemia, bowel death would be local rather than diffuse.

Q. I hear your answer, I don't understand it, so we're going to discuss it a little more.

A. Okay.

Q. I assume you consider yourself an expert on the subject we're now discussing?

A. I have the expertise I think of a general internist. I'm not a gastroenterologist, I'm not a vascular surgeon, I am an internist.

Q. The reason that there is evidence of jejunal ischemia is because that portion of the bowel tissue is dying because of lack of adequate perfusion of oxygenated blood; isn't that true?

A. Ischemia is a term that means lack of adequate blood supply. Infarction is the term when that blood supply becomes so inadequate that the tissue dies.

So if you say that jejunal ischemia -- what you are saying is that the tissue is compromised, that there are areas which are in the process of dying or being damaged by lack of oxygen or lack of a blood supply.

Q. Does the superior mesenteric artery supply all the arterial blood to the bowel, to the intestine?

A. I don't know the answer to that.

Q. If I understand your opinion, you are saying that in the presence of inadequate perfusion secondary to infectious process, it's not unusual to have but a 5 centimeter portion of the bowel affected?

A, That wasn't what 1 said. What I said was that in my experience in conditions where there is low flow to the intestine, there is ischemia of the intestine due to low flow, the patient is alive; it's not usual or it's common to find skipped areas, common to find areas of ischemia.

MISS KOLIS: I need to interrupt both of you for a second.

MR. GOLDWASSER: Yes.

MISS KOLIS: We have a slight problem. The gentleman who runs the office

handed me a note, evidently you scheduled this video conference for 10:00, to at the latest 12:30. They have another group who needs to be in here. Do you want me to step out in the hall to see what I can do to correct the situation?

MR. GOLDWASSER: See if they can give us another 15 minutes.

MISS KOLIS: I'll be right back.

(Recess had.)

BY MR. GOLDWASSER:

Q. Doctor, we're going to change the subject from the jejunum,

Tell me, sir, did you need your charts that you prepared to figure this case out?

A. Did 1 need them to figure the case out? Not for the most part, no, The charts that I prepared were primarily to document the extent of the abnormalities, The data in the chart is in the laboratory records and the progress notes. I did need the chart of temperatures to really know what is going on in the sense that I'm not used to converting in my head from Celsius to Fahrenheit.

We use Fahrenheit here.

That aside, and I don't think that the chart and the fact that -- no, the answer is that is it. I think that is the only thing I really relied on in making judgments about the case.

Q. Did the chart help you figure this case out?

A. I think they illustrated it. If you are asking me whether they assisted me in forming the conclusions that I formed in my report, the answer to that is no, because the only chart that I think I made up to that time had to do with the temperature. So the answer would be that they didn't other than convert the temperature from Celsius to Fahrenheit.

Q. Dr. Holzman, why did Carolyn Yarborough not die while at Saint Luke's Hospital?

A. Why did she not die at Saint Luke's Hospital?

Q. In view of the fact that Enterococcus and Candida were present from at least January 10th up to the time of her death, why did she not die while at Saint Luke's Hospital?

A. Because her body was fighting the infection with partial success.

Q. How does a body fight infection with partial success in view of the extent of her immunosuppression or compromise from steroids?

A. People on steroids have less inflammatory responses than people who aren't on steroids. They have simple inflammatory response.

This patient looking at the autopsy results developed abscesses which are the body's way of trying to wall off infection in the area where bacteria or yeasts or a mixture of the two are growing.

White blood cells are brought to that area, they die, the materials within them attract other white blood cells. They also attract cells that begin to create new tissue. A capsule of connective tissue begins to form around this area of infection and that is what creates what we call an abscess, as opposed to a cellulitis or peritonitis; that wall constitutes a certain barrier to prevent access of the germs to the circulation of the body into the other tissues in the body. Abscess formation would be the major way that the peritoneal cavity fights to limit infection.

Q. Doctor, if that be true, I have no reason

obviously to disagree with your comments, you are the expert, in view of the fact that it is probable this patient did not have an abscess formation at least as of January 20th, my question again is: Wow is it that an immunocompromised patient is able to have her body fight off virulent bacteria like Enterococcus and fungal Candida without antibiotics or antimicrobial medication?

A. The only answer I can give you is that it does. This woman is not an isolated event. These things happen, there is good documentation of them, it certainly has happened in my experience. There is not a good reason to say that she would have had to have developed sepsis and died because she wasn't on antibiotics and these organisms were present.

Q. What happened on January 30th which caused the sudden change in her condition?

A. I'm not sure if it happened on the 30th or not. The chart at the nursing home reports an event a day or two earlier where she complained of some pain, which they describe as chest pain, a very short period of low blood pressure that responded to her being put to bed.

It is entirely possible that at

that point in time a rupture of the abscess around her liver occurred, that the worsening that occurred in her development of septic shock on the 30th was a consequence of that. I offered that as an opinion about what happened. 1 haven't said that it is a certain opinion. It is to me a plausible explanation for what happened.

Q. Do I understand that just by way of explanation, that if the abscess had never developed, this patient would not have died from sepsis secondary to the Enterococcus and Candida?

A. No, I would say that a little differently. I think had the abscess not developed the patient might well have died sooner. That the question that you originally asked, why did she not die sooner, was answered by because she was fighting the infection. The manifestation of her fighting the infection was the localizing of the two abscesses.

Q. Absent the presence of an abscess, hypothetically absent other signs and symptoms of an underlying brewing infection, the clinician would have a reasonable basis to feel confident that his patient was satisfactorily progressing; is that not true?

A. I don't know absent -- let me hear -- absent the presence of -- absent a clinical finding of -- no, the answer to that question is no.

The problem is that the use of steroids in the doses that this patient received makes it difficult or impossible to be sure that an infection is not present in the abdomen regardless of the patient's symptoms. Also, regardless at the time of that CAT scan on the 19th or 20th or of the presence or absence of definable abscess at that point in time.

Q. We discussed before we broke this morning the subject of white blood counts being elevated secondary to corticosteroids?

A. Yes, sir.

Q. You, I believe, correct me if I'm wrong, obviously you will, have agreed that generally speaking steroids will cause the white blood count to increase; correct or incorrect?

A. That's correct.

Q. What in this case I think you were alluding to when we broke, I wasn't following you, what in this case caused the white blood count to come down?

A. Well, I believe that what caused it to come

down was a demand for white blood cells in excess of the marrow's ability to produce them.

I believe that the source of that demand was the process of forming the intra-abdominal abscesses that were found at her autopsy. I think the increasing numbers of juvenile leukocytes in the blood is the clinical evidence that the changes are due to increased demand and secondarily to increased production, that is production increases as a function of demand.

Q. Isn't that analysis which you just articulated stated with the benefit of hindsight in this case, Doctor?

A. Isn't the analysis -- well, it depends when you make the analysis.

What I'm saying is that if you ask me to stand at the bedside or a nurse's station on January 25th, look at the laboratory data, say the white count had been dropping, there is a shift to the left which is increasing, then I think that is a reasonable conclusion to come to, that is a situation I have found myself in many times clinically.

Q. Is that something that a general surgeon

would find himself confronted with many times clinically?

A. I would expect so, yes.

Q. How do you know that?

A. I said I would expect so. I don't know what any particular general surgeon would be familiar with or exposed to in a sense of white counts. This pattern of declining white count, increasing shift to the left as I've called it, is a common pattern to see in patients with infection, including intra-abdominal infections that are managed by surgeons and extra-pleural infection managed by surgeons, so that I would expect that the typical general surgeon would be familiar with that pattern as a manifestation of infection,

Q. Even in patients who are not on steroids?

A. Yes.

Q. Decreased white blood count, increase in bands?

A. Yes, sir.

Q. It is your opinion, is it not, that Candida contributed to causing Carolyn Yarborough's death?

A. It is,

Q. Is Candida cultured out of blood?

A. I'm sorry. Are you asking can Candida be

cultured off the blood or was it in this case?
Q. No. If Candida is present in sufficient quantity in the blood, would it be cultured out?
A. It might be cultured out, there are subtleties in it in the sense that it would grow in the same culture tube as let's say Enterococcus or some other bacteria would.

If the bacteria were a much faster growing organism that might be detected first, Candida might be missed.

Also the Candida might be inhibited depending on what organisms was growing in addition to it. In theory, yes. In practice it might not be.

Q. Was Candida present in this patient's blood on January 30th?
A. Was not found in her blood on the 30th.
Q. Was Candida ever present in her blood from the 30th to the time she died?
A. Well, you can only tell -- answer that question based on the few times there were blood cultures taken. If you ask me my professional opinion to a reasonable degree of medical certainty, I think that there were times when Candida was in her blood stream; since cultures

weren't taken, it can't really be proven.
Q. Since it can't be proven, on what basis do you conclude with reasonable medical certainty that Candida contributed to causing her death?
A. Findings at autopsy, my general knowledge of infectious disease.
Q. Would you agree with the proposition if Candida was not present in her blood it would not have caused her death?
A. No, I would not agree with that.
Q. Tell me, explain to me how physiologically Candida can cause somebody's death if it's not present in their blood?
A. I described to you the process by which bacterial and fungal infection causes death, uncontrolled activation of inflammatory processes and clotting in the body, that process can be engendered at sites outside the blood stream. It is not necessary to have organismss in the blood stream. There are many circumstances in which people do die of septic shock without organisms in their blood stream.
Q. In this case, what sites outside of the blood stream were infected by Candida?
A. I believe that there were two abscesses, Let

me refresh my memory with the autopsy. Hang on one second.

Talking about the final diagnosis in the autopsy is right anteroposterior subdiaphragmatic abscesses containing organisms consistent with Candida species.

Now, the spaces that are being talked about there are the spaces between the front of the liver and the diaphragm, which is the muscle that separates the chest and abdominal cavity and posterior of the liver and diaphragm. The liver is -- the top of the liver is roughly hemispherical, normally in close opposition to the diaphragm.

When fluid pushes the two apart, gets walled off by the process that I describe, it's called a subdiaphragmatic abscess, diaphrag meaning the diaphragm, those would be the two spots.

Q. So how does the presence of Candida in those two spots cause a patient's death?

A. I said the answer to that already.

Q. The liver is clearly not involved. The pathologist describes that the liver may have Candida abscess around it, the liver itself is not

infected with Candida?

A. But there is an adjacent large surface of mucous membrane, peritoneum which is a surface of moist skin very like your mouth, very like the rest of the intestinal tract, that area is an area in which infection can spread and gain access to the blood stream.

Q. In this case there is no proof that it gained access to the blood stream; isn't that true?

A. I'm sorry. What we're talking about the gaining access to is not the germs but the inflammatory mediators that the germs have caused the production of. Those are not necessarily held back by an abscess.

Q. So if I understand what you are saying, even in the absence of the germ Candida in the blood stream, the inflammatory response can be carried from the blood stream to critical organs of the body; is that what are you saying?

A. That's correct.

Q. Now, which critical organs of the body in this case were affected by the inflammatory response?

A. Circulatory system, Those are the blood vessels.

Q. What else?
A. Well, there is some evidence that the heart can be affected.
Q. Was it?
A. We didn't find such evidence in this case, no.
Q. Was there evidence that the blood vessels were affected in this case?
A. Yes,
Q. What evidence?
A, Blood pressure.
Q. Any other organs in this case?
A. The other organs are primarily affecting consequences of the effect on the circulatory system,
Q. What we are saying is the organ affected by the inflammatory response in this case was a blood vessel?
A, That is the one where the primary evidence is, yes. I can't tell whether or not other organs were affected primarily or secondarily, but that is what is apparent in the protocol,
Q. Doctor, you understand this is a very important lawsuit for those doctors being sued. I trust you'll be fair, not speculate on what might

ke. You are only going to testify to that which you are certain?

A. I do understand. I'm trying to give an accurate impression of the degree of confidence I have in my statement.

Q. So we have concluded then in fairness, intellectually the only organ in Carolyn Yarborough that was affected as a consequence of an inflammatory response to the germ Candida was her blood vessels; is that a fair statement?

A. No, it's not a fair statement. I have to amend that because it -- also the brain is also affected by the mechanism by which temperature is produced, involves the effect on the brain and I have to qualify the statement that you are making which is a very narrow one, which leaves off the idea that the circulatory system itself affects all of the other systems to which blood is delivered.

So while it might be that the circulatory system is the primary system that is affected, there are blood vessels in the lungs, there are blood vessels in the abdomen, blood vessels in the brain, blood vessels in the kidney, every organ in the body is affected by this change.

Q. So now we've got the brain and the blood vessels affected as the critical organs in this case?

A. What do you mean by critical organs, sir?

Q. organs that are required to function to sustain life. You've got to have your brain function to sustain life, correct?

A. You have to have certain parts of the brain to sustain life.

Q. I understand.

You need your heart?

A. You need your heart, that's correct.

Q. You need your kidneys, absent dialysis?

A. Liver.

Q. Liver, right.

A. Right.

Q. I'm alluding to that kind of organ system deficits which are incompatible with life.

With that understood, is it your opinion that the blood vessels and the brain are those organ systems?

A. I believe that in her second hospitalization that those would be the two organ systems which were primarily responsible €or her being dead. The failure in other organ systems as well.

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Q. I'm alluding to that kind of organ system deficits which are incompatible with life.
With that understood, is it your opinion that the blood vessels and the brain are those organ systems?
A. I believe that in her second hospitalization that those would be the two organ systems which were primarily responsible for her being dead, The failure in other organ systems as well.

If you are asking what is not compatible with life, then those are the two systems. If you can't pump blood and maintain the blood pressure, you are not going to live and if you don't have a live medulla you are not going to live.

Q. Are you suggesting the heart stopped pumping here because of the inflammatory response?

A. I need to look at the Huron Road records to answer the question.

This woman was pronounced dead because all of those brain functions which are necessary to sustain a personality and intellect were missing. She was maintaining a blood pressure, she was perfusing her body but she died because her brain did not get enough oxygen and that is the definition of death used in assessing this patient as dead.

Q. Do you agree with it?

A. I agree that the -- do I agree that the patient died because of brain death?

Q. Yes.

A. Yes, I agree with that.

Q. The brain death was in turn caused by in your opinion in part the inflammatory response secondary

to the germ Candida?
A. I would interpose the blood pressure. I believe the brain death was caused by absence of circulation of blood to the brain,,which was in turn caused by the presence of septic shock, which was in turn due to the presence of a mixed infection in the abdomen, which was caused by both Enterococcus and Candida.
Q. Changing the subject to urosepsis.
I think when Miss DiSilvio was asking you questions there was an allusion to the fact that she had a positive urinary culture upon admission to Huron Road Hospital; do you remember that question?
A. Yes.
Q. If I heard you correctly I believe you said that you have concluded that the Enterococcus grown in her urine was a different species than that Enterococcus grown in her abdomen; is that true?
A. Not a different species, a different strain of organism. Sam and Joe are both humans, but Sam isn't Joe.
Q. I hear you.
Is it your testimony that this different strain of organism of Enterococcus that

grew in the urinary system was just coincidental to the fact that she had Enterococcus in different strains growing elsewhere?

A. Yes.

Q. How was it, do you have an opinion how it was that Enterococcus grew in the urinary tract system?

A. It is one of the most common organisms to infect the urinary tracts of people who have urinary catheters. In women it is one of the common causes, although not the common cause of urinary tract infection, even in the absence of a catheter.

Q. How do you know that this strain of Enterococcus growing in the urinary system is not responsible for her death?

A. Wasn't the strain found in her blood stream and the pathology of the kidney does not indicate the kidney was a site of a significant infection.

Q. Doctor, you've in part alluded to the answer to the question I'm about to ask. I want to ask a different focus here.

Why did Mrs. Yarborough crash, so to speak, or succumb to her sepsis as of July 30th?

MISS KOLIS: January 30th.

Q. January 30th, I'm sorry.

MISS KOLIS: That's okay. You must be tired.

Q. When the last antibiotic given was about January 20th?

A. I'm not sure I can answer the question other than to say that is what happened. The patient had evidence that infection was developing following and during the administration of antibiotics. It's true that I'm looking back in retrospect reconstructing it. To ask me why something happened, I'm not sure I can always give you a clear and simple explanation why it happened. That it was happening and it happened is clear.

Q. This is not a clear and simple case, is it, Doctor?

A. I think it is.

Q. Why is it so clear and simple?

A. Because what happened to this patient is a common predictable consequence of a disease she had and medical treatment she required. It is not exotic.

Q. How many patients in the last year have you treated secondary to an abdominal infection with these organisms who were on high doses of corticosteroids?

A. I have testified that since January 1st there were none.

Q. Wow many the year before?

A. I'm trying to think back to the year before. I think there was at least one. There may well have been more, I'm not sure I can give you an accurate count at this point.

Q. So maybe I'm confused considering what you just said, how to the surgeon does this present as a relatively simple case?

A. The status of people who are receiving large doses of steroids is an item of general medical knowledge which is well known to abdominal surgeons, well known to general internists. It is predictable from the management of the patient that if complications are going to occur, these kinds of organisms, these species especially are the ones that are most likely to give you a problem if complications are going to occur.

It is not -- that is why I say it's not exotic. It may be that surgeons in the course of their practice will see a couple of cases a year, or they may see a couple of cases every two years, but the facts of the situation are generally well known to surgeons.

There are many other situations where this kind of thing develops. It is common in inflammatory bowel diseases such as Crohn's disease. This kind of surgical complication is commonplace. It's not unusual. It is not something that I would consider to be an unusual exotic or arcane phenomenon.

Q. In simplistic terms, in this setting in no uncertain terms in your opinion this patient required antibiotics and antimicrobial medications which were sensitive to these organisms?

A. Yes.

Q. The failure to give antimicrobial medication is plain and simple substandard practice in your opinion in this setting?

A. I think that at the time that I identified, yes, that it was, when you had the evidence of these organisms in hand, you had evidence that this wasn't a perfect, not just a good, wasn't a perfect response to the surgery and existing antibiotic therapy, that it was appropriate to change the therapy, and that it was foreseeable that you would have problems with these organisms if you were going to have problems.

Q. What you characterize as less than perfect is

the temperature and the white blood count differential?

A. That's correct.

Q. Postoperatively, Doctor, from your review of the medical record, is it correct to state that there is no indication that the patient was experiencing a rebound phenomenon of the abdomen?

A. Talking about rebound tenderness?

Q. Yes.

A. Yes, no report I recall of rebound in the chart.

Q. Is it fair from your review of the chart that those blood cultures which were taken at Saint Luke's came back negative?

A. On which day are we talking about?

Q. You've got the record there. There were blood cultures taken, you want to find them in your report?

A. Opening the record now.

Q. Take your time. Page 51 of the lab sheet to help you out, lab reports.

A. The organism that grew in the blood culture was a bacteroid, that is what I want to check. I know there was a positive culture. You are saying the culture did not grow Enterococcus from the

blood.

Q. Is it fair to state from your review of the record, Doctor, that while you qualified your interpretation of the January 20th CT scan, at least it did not demonstrate an abscess?

A. I would agree that it did not demonstrate an abscess.

Q. Would you agree that the white blood count, except for one day, was essentially stable before it began dropping to close to the normal range?

A. What time period are we talking about?

Q. Throughout. I mean obviously during the immediate crisis period, at the time of surgery and the day or two thereafter, I'm not talking about that. I'm talking within a few days after surgery, would you agree that the white blood count was stable before it began dropping towards the normal range?

A. I would agree that the total white blood cell count between the 15th and the 23rd was within the range that might be expected for somebody on steroids in the absence of infection,

I would say that the exception to that is what I pointed out on the 17th, the white count of 26,000 is not consistent with that. I

would say that on the 19th, that a time at which the white count actually had dropped, there is evidence of abnormal number of juvenile cells on that day. There is an abnormal situation as well. That one is only really I think visible if you look at the juvenile count or if you look at the graph to see the depression.

With those two exceptions, I would say that the count alone in isolation through that period was within the range of what you would expect to find.

Q. You have already acknowledged earlier today that since you were not physically there to evaluate Carolyn Yarborough you would accept --

A. No, I'm sorry, I have to qualify that answer further. I would take issue with your characterization of the white count falling into the normal range.

Q. I didn't say that.

A. The white count during the 24th, 25th, 26th is falling from 20,000 toward 10,000. 5 to 10 is the normal range. It's in normal range for someone on 60 milligrams of Prednisone. That is not a normal change.

As I pointed out to you, if

somebody's white count is 20,000 on Prednisone for several days, I expect it to stay there, I don't expect it to fall.

Q. What you are saying is the falling of the white blood count should be a red flag of concern?

A. Yes.

Q. So when Dr. Lerner indicates that the white blood count is reassuring, you obviously disagree with his opinion?

A. Considering the number of juvenile cells in the differential, yes.

Q. Do you agree that the wound was looking good?

A. Yes. I didn't see it, it didn't matter.

Q. Do you agree that the patient generally was looking well considering the fact that she had gone through a life-threatening crisis, required major abdominal surgery?

A. I agree with that, but I think that is not something, given that she is on steroids, that can be relied on.

Q. Do you agree that the urine cultures were negative?

A. Do I agree that the urine cultures were negative? On the 10th they were negative. On the 20th there was Candida albicans.

Q. What was it on the 24th?
A. The 24th there was no growth.
Q. I think you may have answered this question, I'm compelled to ask this as well as to Candida; does it require treatment when it is part of a mixed infection as in this setting?
A. If the setting includes receiving 60 milligrams of Prednisone a day, yes.
Q. Doctor, this case is about treating infection, correct?
A. Or about failure to treat infection. It's about infection.
Q. In this setting, what are the significant things that the doctors should be evaluating?
A. Particularly in this setting the fever is an important issue because steroids can modify fever and the persistence of fever in the presence of steroids is an important diagnostic feature.

The changes in the white count and differential count are important. We've gone through the fact they can be misleading, particularly the height of the white count. The differential count is really not affected by the steroid use. The differential count should probably be weighted more heavily in the clinical

evaluation of a patient than it might be otherwise.

The return of intestinal function is an important consideration. There are a lot of important considerations. The bottom line is you can't rely on any of them. It is easy to be misled.

Q. So that is where you say the bottom line is, you have to give antibiotics and antimicrobials in this case?

A, The bottom line you knew this patient had two germs which weren't being treated and you knew that she wasn't doing perfectly well and that is sufficient.

Q. On January 16th, which is a date which you picked as being one of the decision points in time --

A, I actually think the way the graph comes should have been the 17th. The 17th, the day on which that white count was 26,000.

Q. So on the 17th what was present which was making up this as a decision point in time?

A. Oral temperature around 100, white blood cell count of 26,000, slightly over 26,000, knowledge that those organisms were present,

Q. The bands on the 17th are 1; isn't that reassuring?
A. Not enough.
Q. Not enough when the reference range is zero to 5?
A. Not enough.
Q. So the bands are irrelevant as of the 17th?
A. No, they are not irrelevant. They are one feature out of the constellation. You try to take each of these in isolation and make it out to be the be all and end all of the decision. The decision is made on the totality of evidence.
Q. Doctor, I think that is what I'm trying to do here.

Here you have a patient who has got an elevated white blood count who is on steroids that you acknowledge can cause an increased white blood count?
A. Not to that level.
Q. Pardon me?
A. Not that level.
Q. What is the significance of the level in the picture of her infectious process?
A. It was evidence that there was a continuing infectious process.

Q. Why did the white blood count drop significantly the next day without treatment?
A. I'm not sure that I can give you an answer to that.
Q. But, Doctor, in fairness, you've got a clinician taking care of a sick lady, you can't give an answer, maybe they don't have an answer either, aren't they given at least the benefit of the doubt to think hey, things are under control?
A. No.
Q. Why not?
A. Because they should have knowledge that these organisms are problem organisms. This was a problem patient.
Q. We keep running in a circle. I think it comes down to the bottom line this problem patient had to have the antimicrobial medication in your opinion?
A. The bottom line is in my opinion this patient should have been treated for those two organisms.
Q. Because the clinician could not rely upon reassuring or negative findings?
A. I couldn't have said it better myself.
Q. I want to make sure we're understanding each other.

A. And more, the findings aren't really negative, the findings are equivocal, If the findings were totally negative, if the white count was stable it would have been a different picture, that was not the case. That's not this case.

Q. 1 figure if 1 pause long enough, Doctor, you'll come up with another answer. I'm trying to go as fast as I can. I'm trying to look at my notes, so forgive me for a minute.

On January 23rd, I'm alluding to that date in particular, putting aside that which happened afterwards, what evidence is there on January 23rd when Dr. Bass evaluated this patient to give the examiner reason to believe that there was a persistent abdominal infection present?

A. Persisting low grade fever that had been present for an extended period before from the 16th.

Q. Fair enough. Anything else?

A. The knowledge of those organisms in the cultures.

Q. Anything else?

A. White count on the 16th.

Q. Anything else?

A. Bands on the 19th.

Q. The bands on the 19th did you say?
A. Yes.
Q. What were the bands on the 19th?
A. It looks like they were about 7 or 8. Can't be sure.
Q. What are you looking at to make that determination?
A. The figure. I can look up the exact number in the book. I was looking at the figure, find where the bands are in the lab data.
Q. I don't see the bands being measured on the 19th.
MISS KOLIS: Towards the back section.
A. Page 41. Bands were 8 on the 18th, it looks like what I did there is a reversal in the chart. The bands were on the 18th, not the 19th.
Q. How do you explain the bands are 8 on the 18th and 1 on the 20th?
A. I don't know that I have to or can.
Q. I didn't ask you if you have to or can. I want to know if you have an explanation.
A. The explanation I would make is that typically when an infection doesn't involve the inside of the blood stream, a heart valve and

artery or vein, bacteria or yeast or whatever the thing is causing the infection to gain access to the blood stream irregularly, when they do so they cause a response.

The reason why I said earlier today that I thought to a reasonable degree of medical certainty that Candida had been in the blood at some time, it's entirely possible that these intermittent episodes of bands or elevated white counts or what have you do reflect when some organism did get access to the blood, did cause a worsening of the inflammatory response at that point.

Q. Doctor, as to your testimony, what day next week do you plan on testifying? Did you hear me?

MISS KOLIS: Did you ask another question?

MR. GOLDWASSER: I didn't hear the answer. What day next week week does the doctor plan on testifying in court?

MISS KOLIS: He's coming in Wednesday the 15th.

MR. GOLDWASSER: I didn't know that, I assume he's planning on testifying on Thursday.

THE WITNESS: I don't think that was right.

MISS KOLIS: He's testifying on Wednesday the 15th.

Q. Wednesday the 15th?

A. Yes, sir,

Q. Very good.

Doctor, if you have any reason whatsoever to change any of your opinions you've given in this case between now and the time you testify, that is a change in your opinions, modify or qualify them, would you so inform Donna Kolis so she can inform us?

A, Certainly will,

Q. How many times have you testified in trial prior to this coming next week?

A. I believe four, of which two were not malpractice cases. I'm sorry. Four, of which one was not a malpractice case.

Q. Have any of those cases in which you testified at trial dealt with the subject matter of this lawsuit?

A. Some of them dealt with abscesses but not with intra-abdominal abscesses,

I did give a deposition in another

case which was a case in Florida in which there were complications from an intra-abdominal infection, steroids were not involved. I did not testify in that case other than the deposition.

Q. Doctor, let me summarize your testimony then as relates to Dr. Sonpal, then I'll be finished.

It's my understanding that it is your opinion Dr. Sonpal deviated from acceptable standard of medical practice by failing to order antimicrobial medications as of January 17th; is that a fair statement?

A. Subject to my double checking the numbers for accuracy, yes.

Q. It is your opinion Dr. Sonpal was not entitled in this setting to have relied upon what he perceived to be a patient who was stable and progressing well; is that a fair statement?

A. Your question was he was not entitled to rely upon that?

Q. Yes. Did you give me an answer?

A. Yes, I agree with your statement that he was not entitled to rely upon the clinical setting.

Q. It is further your opinion that if Dr. Sonpal had ordered antimicrobial medication, Carolyn Yarborough would not have died; is that a fair

statement?

A. My testimony was that it is more likely than not she would not have died.

Q. Have we now, Doctor, discussed all of the opinions you hold as relates to Dr. Sonpal's standard of care?

A. We haven't discussed the issue of his discharging the patient at the time when the band count was elevated.

I don't believe we have -- yes, we have. I was going to say we haven't discussed the fact he in his deposition didn't seem aware of the effects of steroids. We did bring that up.

I guess with those two if you consider we discussed that then we have discussed them all.

Q. Are you talking about discharge because the bands were going up?

A. That's correct. Dr. Sonpal testified that he had not actually seen the patient or written notes on the patient the last three days, if I recollect his testimony correctly.

Q. We've now then with that statement covered your opinions as relate to the standard of care?

A. Yes, sir.

MR. GOLDWASSER Doctor, I have no further questions. Miss Disilvio may well have questions to inquire further.

MISS DISILVIO: Doctor, I have a few questions. Again forgive my ignorance, I want to clarify a couple points, make sure I understand as best as I can understand.

RECROSS-EXAMINATION

BY MISS DISILVIO:

Q. You spoke with Mr. Goldwasser about the decrease in white blood cell count and discussed it in the context the demand for white blood cells was in excess of the marrow's ability to produce; is that correct?

A. That's correct.

Q. That demand for white blood cells is as a result of a brewing infection in your opinion?

A. That's correct.

Q. Is it not logical to conclude then that as the infection become more fulminant the demand is going to be greater and the white cells are going to drop further?

A. To a point. I testified earlier that the marrow can increase its capacity and the white cell

count can then begin to increase, can go up to elevated levels. In this particular lady when she came back from the nursing home it was 40,000, over 40,000.

Q. At what point then in the presence of infection does the bone marrow begin to increase its capacity to allow for a rise in the white blood cell count?

A. It starts within a matter of days. It can continue for a longer period. I really don't know the upper limits.

Q. I guess my bottom line question is at what point in the course of life of an infection in an immunosuppressed patient do we expect to begin to see a rise in the white blood cell count in response to the marrow's increased capacity?

A. The problem I have answering that question is that not all immunocompromised patients start out with low counts. Patients are compromised in different ways. Alcoholic patients, for example, have permanently suppressed bone marrows.

Q. Let's talk about this particular --

A. This particular patient I have no reason to think she had a particularly suppressed bone marrow, she just had a big demand made on it.

Q. Which returns me to my question: At what point then does the marrow increase its capacity in response to that demand? At what point for Carolyn Yarborough in the life of her infection are we going to see a rise in her white blood cell count?

A. I have no way of predicting that. If you look at the first part of her course in the hospital, between the 11th and the 17th, the suggestion is that her marrow took some time to respond to that episode, I have no way of answering the question of when the marrow is going to respond, whether it goes three days, four days, or five days. It also has to do with whether the infection exerts a continuing demand or not. It's not a simple answer.

Q. How many species of Candida are there?

A. How many species?

Q. Sou help me, how many Joe's, Harry's, Sally's are there in the Candida family?

A. Wait. There are probably 20 or 30 species of organisms that fall into the genus Candida. Within a species there are as many different organisms as there are children.

When Candida divides or they form replicates of themselves, if a Candida in the

course of dividing or in the course of life changes its genes through a process of mutation, it becomes a different strain of organism.

I think originally we're talking about Enterococcus rather than Candida. The question is whether or not a certain organism can be considered to be the child of another organism when you say it's Joe or not. There are a million John's, Bill's, trillions of Joe's and Sam's and Harry's in that sense within Candida albicans and Enterococcus and within any bacterial group that you want to name.

Q. We've determined that the Enterococcus in urine in your opinion is of a different family than the Enterococcus in the blood stream, correct?

A. Of a different lineage, different genetic lineage, yes, that would be my determination.

Q. How do you know the Candida in the abscess is of the same lineage as the Candida in the blood culture?

A. I don't think we know that from scientific analysis. I don't think there is any laboratory data that exists in the chart that could be used to make that.

There are laboratory tests that

could be done which are usually research tests as opposed to clinical tests, that data doesn't exist, The judgment that they are the same rests on clinical judgment,

Q. In this patient, Doctor, in your opinion, is there a significance if the band count increase from 1 to 2?

A. Not if it increases from 1 to 2.

Q. What about from 2 to 3?

A. The question that has to be looked at is whether this is a random group of counts, or whether it's an order sequence of counts. Going from 1 to 2 to 3 to 7 to 10 is not a randomly ordered sequence.

As a clinician on say January 21st or 22nd, looking at a number of 1 or 2, I'm not sure I would say anything about it. As a clinician trying to explain a value of 10, looking back to say it was 7 yesterday and 3 the day before that, 2 the day before that, I would count that very heavily,

MISS DISILVIO: Thank you very much, Doctor,

MR. GOLDWASSER: Doctor, I thank you very much for cooperating with us today. I'm

sorry we took so long. For nonphysicians this is a very complex subject. Thank you for being patient with us.

Donna, I will send someone to your office to pick up the chart and that which Dr. Chung identified.

THE WITNESS: I'm going to check the numbers. I think I transposed two of the numbers. I will a send a corrected copy by fax.

MR. GOLDWASSER: I appreciate your comment.

(Deposition concluded; signature not waived.)

ERRATA SHEET

NOTATION	PAGE/LINE

I have read the foregoing transcript and the same is true and accurate.

_____

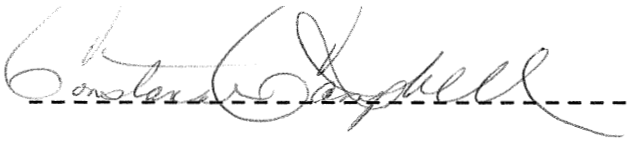
ROBERT S. HOLZMAN, M.D.

The State of Ohio, :
County of Cuyahoga. : CERTIFICATE:

I, Constance Campbell, Notary Public within and for the State of Ohio, do hereby certify that the within named witness, ROBERT S. HOLZMAN, M.D. was by me first duly sworn to testify the truth in the cause aforesaid; that the testimony then given was reduced by me to stenotypy in the presence of said witness, subsequently transcribed onto a computer under my direction, and that the foregoing is a true and correct transcript of the testimony so given as aforesaid.

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

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Cleveland, Ohio, this 8th day of July, 1998.



Constance Campbell, Stenographic Reporter,
Notary Public/State of Ohio.
Commission expiration: January 14, 2003.

Look-See Concordance Report

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UNIQUE WORDS: **1,988**
TOTAL OCCURRENCES: **7,937**
NOISE WORDS: **385**
TOTAL WORDS IN FILE: **22,417**

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SINGLE FILE CONCORDANCE

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CASE SENSITIVE

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PHRASE WORD LIST(S):

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NOISE WORD LIST(S): **NOISE.NOI**

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COVER PAGES = **4**

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INCLUDES ONLY TEXT OF:
QUESTIONS
ANSWERS
COLLOQUY
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EXHIBITS

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POSSESSIVE FORMS **ON**

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MAXIMUM TRACKED OCCURRENCE THRESHOLD: **50**

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NUMBER OF WORDS SURPASSING OCCURRENCE THRESHOLD: **12**

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