IN THE COURT OF COMMON PLEAS
CUYAHOGA COUNTY, OHIO

DIANE COLVIN, Administratrix
of the Estate of
GREGORY COLVIN, deceased.
Plaintiff,
vs Case No. 388614
KEITH KRUITHOFF, M.D.,
et al.,

Defendants.

DEPOSITION OF SORIN JAKOB BRENER, M.D.
TUESDAY, SEPTEMBER 5,2000

The deposition of SORIN JAKOB BRENER, M.D., the Witness herein, called by counsel on behalf of the Plaintiff for examination under the statute, taken before me, Vivian L. Gordon, a Registered Diplomate Reporter and Notary Public in and for the State of Ohio, pursuant to agreement of counsel, at the offices of The Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio, commencing at 1:30 o'clock p.m. on the day and date above set forth.

APPEARANCES:

On behalf of the Plaintiff
Becker & Mishkind
BY: JEANNE M. TOSTI, ESQ.
Skyliaht Office Tower Suite 660
1660-West 2nd Street
Cleveland, Ohio 44113

On behalf of the Defendant Kruithoff, M.D.
Bonezzi, Switzer, Murphy & Polito
BY: JOHN S. POLITO, ESQ.
1400 Leader Building
Cleveland, Ohio 44114

On behalf of the Defendant Cleveland Clinic
BY: STEPHEN A. SKIVER, ESQ.
30025 E. River Road
Perrysburg, Ohio 43551

On behalf of the Defendant Ohio Permanente
Roetzel & Andress
BY: INGRID KINKOPF-ZAJAC, ESQ.
One Cleveland Center
1375 East 9th Street
Cleveland, Ohio 44114

SORIN JAKOB BRENER, M.D., a witness herein, called for examination, as provided by the Ohio Rules of Civil Procedure, being by me first duly sworn, as hereinafter certified, was deposed and said as follows:

EXAMINATION OF SORIN JAKOB BRENER, M.D.
BY MS. TOSTI:

Q. Doctor, would you please state your name for us.
A. Sorin Brener.
Q. Spell your last name.
A. B-R-E-N-E-R.
Q. What is your home address?
A. 25275 Shaker Boulevard in Beachwood, Ohio.
Q. Your zip code?
A. 44122.
Q. Is that a single-family home?
A. Yes.
Q. Your current business address, is it here at The Cleveland Clinic?
A. Yes.
Q. Who is your current employer?
A. Cleveland Clinic Foundation.
Q. What is your title here at The

Cleveland Clinic, currently?
A. Staph cardiologist.
Q. Was that the same in 1998?
A. Yes.
Q. Do you hold any administrative positions at The Cleveland Clinic?
A. No.
Q. Have you ever?
A. No. I don't know exactly what you mean by administrative.
Q. Such as the head of the coronary intensive care unit.
A. No.
Q. Or the head of any particular department.
A. No.
MR. SKIVER: Try to keep your voice up.
Q. When did you first become employed at The Cleveland Clinic?
A. I started training in 1989 and have remained at the Clinic ever since. I became staph in 1996.
Q. Aside from your employment here at The Cleveland Clinic, do you provide professional

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services for any other entity?
A. We have an affiliation with MetroHealth Medical Center, and part of my duties is to provide similar services there.
Q. What type of things do you do at Metro?
A. The same thing; coronary intensive care unit, cardiac catheterizations and angioplasty.
Q. Have you ever had your deposition taken before?
A. No.
Q. I want to review some of the ground rules for a deposition. I am sure counsel has had a chance to talk with you.
This is a question and answer session. It's under oath. It's important that you understand the questions that I am going to ask you. If you don't understand them, ask me and I'll be happy to repeat them or to rephrase them; otherwise, I'm going to assume that you understood my question and that you are able to answer it.
I would also ask that you give all of your answers verbally, because our court reporter

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cannot take down head nods or hand motions.
A. Sure.
Q. And at any point, if you would like to refer to the medical records, feel free to do so. This isn't any type of a memory test.
At some point during the deposition, one of defense counsel may choose to enter an objection. You are still required to answer my question unless counsel instructs you not to do so. Do you understand those?
A. Yes.
Q. Have you ever been named as a defendant in a medical negligence case?
A. No.
Q. Now, you have indicated you have never had your deposition taken. Have you ever given testimony in a medical negligence case? I mean at trial.
A. No.
Q. Have you ever acted as an expert in a medical negligence case?
A. I have reviewed cases before they got to court, as an expert, and I provided my input.
Q. How many cases have you reviewed?
A. If my memory serves me correctly,

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three or four.
Q. Were they for the plaintiff or the defendant in the case?
A. I really don't recall all the details.
Q. Do you recall whether they were for a medical practitioner or for a patient, the family of a patient?
A. Again, these were informal reviews. I believe it was for the medical practitioner.
MR. SKIVER: If you don't know, doctor, don't guess.
Q. Have you ever done any medical reviews for Mr. Skiver?
A. No.
Q. Attorney Anna Carulas?
A. No.
Q. Mr. Polito?
A. No.
Q. Do you recall who, what attorney you did do the medical reviews for?
A. No.
Q. In any of the reviews that you have previously done, did any of them deal with issues involving infective endocarditis?
A. No.

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Q. Do you recall the allegation of negligence in any of the cases that you reviewed?
A. I did not state that there was negligence. The issue, because I'm an expert in angioplasty, it had to do with the use of this procedure.
Q. Now, doctor, your counsel has given me a copy of your curriculum vitae. I would like you to please take a look at it, and if you would just identify it for the record for us.
- - -
(Thereupon, BRENER Deposition Exhibit 1 was marked for purposes of identification.)
- - - -
Q. Is that your curriculum vitae that's been marked as Plaintiffs Exhibit 1?
A. Yes.
Q. And are there any additions or corrections that you would like to make to it?
A. No.
Q. Doctor, you are currently licensed in the State of Ohio to practice medicine; is that correct?
A. Yes.

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Q. You were so licensed also in 1998; is that correct?
A. Yes.
Q. Are you licensed in any other states?
A. No.
Q. Has your medical license ever been called into question, suspended or revoked?
A. No.
Q. Has your medical privileges at any hospital ever been called into question, suspended or revoked?
A. No.
Q. Are you board certified in any area of medicine, doctor?
A. Yes. Internal medicine, cardiovascular medicine and intervention cardiology.
Q. And were there tests involved with each one of those?
A. Yes.
Q. Board certifications?
A. Yes.
Q. Did you pass each of those on your first try?
A. Yes.

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Q. Doctor, on your curriculum vitae, you have a number of publications listed.
Do you have any publications that are currently in progress of publication that are not listed on this curriculum vitae?
A. There are probably two or three articles that are under review, yes.
Q. Do any of them deal with infective endocarditis?
A. No.
Q. In regard to the articles that are listed on your curriculum vitae, do any of them deal with infective endocarditis?
A. No.
Q. Do any deal with prosthetic mitral valve replacement?
A. No. There is one article that deals in general with valve surgery at The Cleveland Clinic Foundation.
Q. Would you tell me on your curriculum vitae which article that is? Do you have them numbered?
A. They are not numbered, but I can show you.
This was the article Permanent Pacing

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Following Repeat Cardiac Valve Surgery published in 1994.
Q. Thank you, doctor.
Have you ever given a formal presentation on the subject of infective endocarditis?
A. No.
Q. Tell me what you have reviewed for this deposition today.
A. I have reviewed my note from May 15th, which was my sole encounter with the patient. And I reviewed the note following that day after we switched services, the 16th.
Q. Did you review any other parts of the medical records?
A. No.
Q. Did you refer to any textbook articles, textbooks or journal articles in preparation for this deposition?
A. No.
Q. Have you at any time since this case was filed reviewed the tapes of the echocardiograms that were done on Gregory Colvin?
A. No.
Q. Since this case was filed, have you

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discussed this case with any physicians, other than Dr. Skiver?
A. No.
Q. And other than with counsel, have you discussed this case with anyone else?
A. No.
Q. Aside from the notes that you have just referenced in the medical records, do you have any other notes or personal file on this case?
A. No.
Q. Doctor, is there a textbook in your field of practice that you consider to be the most reliable or the best?
A. There are two or three textbooks which are considered reliable.
Q. Which textbooks would those be?
A. Braunwald and Tober's, the Heart.
Q. Do you refer to them from time to time in your practice?
A. Certainly.
Q. Do you consider them to be authoritative?
A. They are, yes, the best that exist. Obviously, there is a lag of time between the

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time they are published, and the knowledge advances quite fast in certain areas.
Q. Now, as you sit here today, are there any specific publications that you believe have relevance to the issues in this case?
A. Not that I'm aware of. It's not my field of expertise.
Q. Have you participated in any research dealing with the subject matter of infective endocarditis?
A. No.
Q. Any research dealing with prosthetic valve endocarditis, specifically?
A, No.
Q. Doctor, I would like you to just describe for me a little bit what your clinical practice is. I understand that you are a cardiologist, but do you limit your practice to any specific area of cardiology?
A. Well, I specialize in the invasive procedure of cardiac catherization and angioplasty, hemodynamic monitoring and provision of intensive care in the intensive care unit.
Q. Do you perform echocardiograms in your practice?

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A. No.
Q. Do you evaluate echocardiograms in your practice?
A. I review them when relevant, although I do defer to the expertise of those who mainly do them.
Q. Do you see patients outside of the acute care areas; such as in the clinics, at all?
A. Yes.
Q. Do you do that on a regular basis?
A. Yes.
Q. How many hours a week do you do that?
A. One day a week.
Q. Are the other days of the week involved in the acute care hospital setting?
A. The other days of the week are spent in the catheterization laboratory, and periodically, approximately four months a year, I am in the intensive care unit.
Q. When you are in the cath lab, do you have any responsibilities in the coronary intensive care, cardiac intensive care?
A. No.
Q. Doctor, what is endocarditis?
A. Endocarditis, it's a process that

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involves the inflammation of the lining of the heart, and most often is in the context of an infection.
Q. What is early prosthetic valve endocarditis?
A. It's the appearance of this process, which again is presumed to be infective in origin, in the first few months after the replacement of the valve.
Q. Would you agree that staph epidermis is a common cause of prosthetic valve endocarditis?
A. Yes.
Q. Do you know what the peak time of onset for prosthetic valve endocarditis is after cardiac surgery?
A. I believe it's 30 days.
Q. And do you know what percentage of valve replacement surgical patients go on to develop prosthetic valve endocarditis within the first two months after surgery?
A. I'm not absolutely sure. I have an approximate.
Q. Approximately then.
A. Less than five percent.

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Q. Do you know what Cleveland Clinic's rate of prosthetic valve endocarditis is after surgery in 1997 or 1998?
A. No.
Q. And in your practice, do you see patients with prosthetic valve endocarditis?
A. The ones that I do are in the intensive care unit, although most of them do come from other hospitals.
Q. Aside from -- I'm sorry. Did you complete your answer?
A. Yes.
Q. Aside from this case, however, do you see prosthetic valve endocarditis?
A. Again, I'm not 100 percent certain, but I would think two to five cases a year. That doesn't necessarily mean that they are all early prosthetic valve endocarditis.
Q. I understand, doctor.
Would you agree that there has to be a high degree of vigilance for infective endocarditis in a patient with a prosthetic valve?
A. Yes.
Q. Are there any factors that would place

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a patient with a prosthetic valve at increased risk for prosthetic valve endocarditis?
A. The occurrence of prosthetic valve endocarditis -- and again, not necessarily the early varieties -- are associated with patients who undergo invasive procedures, particularly dental procedures; use of intravenous drugs, usually illicit drugs; the presence of poorly healed endocarditis before the initial valve replacement; and lack of administration of antibiotic prophylaxis during invasive procedures in such patients.
So these would be some of the risk factors associated with the occurrence of this condition.
Q. Would an abscess in the neck draining purulent material increase the risk for prosthetic valve endocarditis?
MR. POLITO: Objection.
Q. You may answer.
A. As it is, if it is associated with bacteremia, yes.
Q. What are the signs and symptoms of infective endocarditis?
A. It is usually a systemic disorder that

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manifests with lack of appetite, weakness, appearance of a murmur, or exacerbation of a previously existent murmur; stigmata, enlargement of the spleen, renal dysfunction.
There is deterioration of the heart function because of abnormalities of valve function, congestive heart failure, embolization to brain or other organs. Probably these are the most common manifestations.
Q. Is fever and night sweats also associated with infective endocarditis?
A. Fever is common, but very nonspecific as opposed to all the others. Night sweats are certainly part of it; not as prominent maybe as the others.
Q. Is anemia associated with infective endocarditis?
A. A long-standing process certainly results in anemia, like any other chronic condition.
Q. Weight loss?
A. Again, when the process is very long and not diagnosed.
Q. Now, we were speaking about infective endocarditis. Do the signs and symptoms for a

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patient that has prosthetic valve endocarditis differ at all from the ones that you just mentioned?
A. I believe in general they are the same.
Q. How is prosthetic valve endocarditis diagnosed?
A. Generally, infective endocarditis is a bacteriologic diagnosis, meaning that the presence of positive blood cultures are identified in the patients in whom such a condition occurs. And once it exists, obviously, the source is identified, and as was stated before, because patients who have a prosthetic material, a valve or anything else, are at higher risk of this infection, then echocardiographic evaluation of the valve will detect the presence of abnormal masses which in the right context would imply the presence of a vegetation.
Q. Does a patient have to have positive blood cultures before a presumptive diagnosis of prosthetic valve endocarditis can be made?
A. The majority of patients would have positive blood cultures, yes. The vast majority.
Q. But my question is, does a patient

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have to have positive blood cultures before presumptive diagnosis of prosthetic valve endocarditis can be made?
A. No.
Q. What is culture negative endocarditis?
A. It's a condition associated with the presence of deterioration of valve structure function, and despite repeated analysis of blood cultures, they remain bacteriologically silent.
Q. Would you agree that negative blood cultures are more likely to occur in a patient with prosthetic valve endocarditis than an endocarditis patient without a prosthetic valve?
A. I'm not aware of that distinction, no.
Q. Would you agree that the blood of some patients with active bacterial endocarditis may persistently culture negative after receiving a short course of antibiotics?
A. Yes.
Q. Would you agree that when you are caring for a patient with prosthetic valve endocarditis that you must be vigilant for sudden onset or worsening of heart failure?
A. Yes.
Q. And in a patient with prosthetic valve

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endocarditis, would it be important to get the patient into surgery for valve replacement before cardiac collapse occurred?
A. Obviously it would be the goal to correct the abnormality at the optimal time.
Q. Doctor, would you agree that echocardiac studies are vitally important in the diagnosis of infective endocarditis?
A. Echocardiographic studies determine the degree of abnormality of the valve. They do not establish the diagnosis of endocarditis. It is a bacteriologic diagnosis.
Q. Well, doctor, if you see vegetations on a patient's heart valve but they are culturing negative, would there be a presumption that this patient has endocarditis?
A. Certainly so. Nevertheless, by echocardiography you do not see vegetations, you see masses which need to be interpreted, particularly in the setting of previously existing valve abnormalities.
Q. If you see echo densities that suggest vegetations even if the patient has negative blood cultures, would that allow you to make a presumptive diagnosis of endocarditis?

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A. In the right clinical context, certainly.
Q. And would that clinical context include cardiac decompensation that was progressing?
A. Certainly.
Q. Would you agree that you cannot exclude the diagnosis of endocarditis on the basis of a negative echocardiogram alone?
A. Yes.
Q. Does the presence of a prosthetic valve sometimes interfere with the detection of echo densities that would suggest vegetations?
A. Frequently.
Q. Would you agree that sequential echocardiograms performed during treatment of endocarditis can assist in making decisions on the necessity for and the timing of surgery by providing objective assessment of cardiac function?
A. The detection of deterioration despite treatment would be an indication for surgery.
Q. So would the answer to my question be, yes, sequential echocardiograms performed during treatment that show a progression of cardiac

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decompensation would be helpful in determining the timing of surgery?
A. Again, only in the direction of the deterioration. The resolution of findings by echocardiogram would not necessarily obviate the need for surgery.
Q. Well, my question said can it assist in making that decision, doctor.
A. Assist, yes.
Q. Doctor, if there is a question about an echo density on an echocardiogram in a patient that has a prosthetic valve, would it be advisable to do a follow-up echo to look for changes in that echo density?
MR. POLITO: Objection.
A. The utility of repeat echocardiographic studies exists only if the reason for the indecision is because the abnormality was not severe enough. If you cannot see it on the first one, because you can't see the structure, then you will not be able to see it on another one.
Q. But if there is an echo density that you are unsure about as to whether it might be suggestive of a vegetation or not, would a

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follow-up echo at a later date give you more information regarding that echo density?
MR. POLITO: Objection.
A. Not necessarily. Again, if the abnormality existed and you decided to treat that condition anyhow, then in the absence of clinical signs and symptoms, you would not necessarily.
Q. What type of clinical signs and symptoms?
A. Heart failure, heart blocks, embolizations. Particularly if the course was already decided as to what's the next step. In the absence of treatment, the sequential echocardiographic studies might assist you in determining whether that density has changed or disappeared, decreased in size.
MR. SKIVER: Keep your voice up.
Q. In a patient with early prosthetic valve endocarditis that is treated with antibiotics and valve replacement, do you know what the cure rate is?
MR. SKIVER: Objection. Calls for speculation. Go ahead, doctor.
MR. POLITO: I join in.
A. Cure, defining as?

Q. Resolution of the infection and resolution of the cardiac decompensation.
A. If the operation is successful, the rate of cure, as you define it, is high.
Q. Can you give me a percentage?
A. Usually in the 90 percent range.
Q. Doctor, I understand that there is a transthoracic type echo and a transesophageal echo. Is one type of echo more sensitive in regard to vegetations?
A. The definition of the densities by transesophageal cardiography is superior to the transthoracic.
Q. Now, what would the clinical indicators be that would warrant proceeding with an echocardiogram, either transthoracic or transesophageal, to assist in the diagnosis of prosthetic valve endocarditis?
A. The suspicion for the presence of endocarditis, particularly in the presence of positive blood cultures.
Q. Now, if the blood cultures are not positive, are there any other clinical indicators that would cause you to proceed with an echocardiogram?

MR. POLITO: Objection.
Q. You may answer.
A. Deterioration in heart function, presence of heart blocks, that's rate abnormality.
Q. We talked about all the signs and symptoms of endocarditis before. If the patient was exhibiting those signs, would that warrant moving towards an echocardiogram?
MR. POLITO: Objection.
Q. Without positive blood cultures.
MR. POLITO: Objection.
A. In the presence of an identifiable source for those symptoms, no.
In the absence of such a source, yes.
What I meant by source is if the patient has urinary tract infection, then, no, it is not indicated to perform an echocardiogram.
Q. I think you may have implied the answer to this, but do valvular vegetations have to be present before the diagnosis of prosthetic valve endocarditis can be made?
A. Again, if the diagnosis rests on the presence of positive blood cultures and densities or vegetations on the valve. In the absence of both, then there is no ground for such diagnosis.

Q. If you have just the positive blood cultures without vegetations, can you make the diagnosis of endocarditis?
A. No.
Q. How is prosthetic valve endocarditis treated once it's been diagnosed?
A. The majority of patients with prosthetic valve endocarditis will necessitate surgery. After adequate antibiotic therapy, surgery will be followed by an additional antibiotic course, quite prolonged.
Q. How long usually is the antibiotic course after surgery?
A. Usually a total of six weeks. Again, it depends on how much before and how much after the surgery.
Q. Would you agree that the sooner prosthetic valve endocarditis is treated with antibiotics, the more likely the outcome will be positive?
MR. POLITO: Objection.
MS. KINKOPF-ZAJAC: Objection.
A. The sooner it is diagnosed and treated, yes.

Q. If a patient with prosthetic valve endocarditis develops a new heart murmur, is that of significance clinically to the patient?
A. Yes.
Q. What would that be an indication of, or possibly an indication of?
MR. POLITO: Objection.
A. It could possibly indicate the presence of negative regurgitation or stenosis. The former is more common.
Q. Would you agree that the timing of surgery for replacing an infected prosthetic valve is extremely important in the management of a patient with prosthetic valve endocarditis?
A. The optimal time of replacement is of crucial importance, yes.
Q. How would you define optimal time of replacement, doctor?
A. It's the time to which you have made every effort to sterilize the infected area, which is typically the valve or the surrounding tissues, while not compromising the hemodynamic status of the patient.
From a clinical point of view, it means that the blood cultures have become

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negative, assuming that they were positive at the beginning of the disease.
Q. So if surgery is delayed too long in a prosthetic valve endocarditis patient, the patient's hemodynamic status may deteriorate so seriously that surgery would no longer be feasible; correct?
A. A number of complications may ensue, not necessarily hemodynamic, yes.
Q. But hemodynamic deterioration is one of those complications; correct?
A. Yes.
Q. Doctor, would you agree that because of the likely need for surgery during the course of prosthetic valve endocarditis that the patient should be managed in consultation with cardiac surgery service?
A. Yes.
Q. And the reason for that would be to facilitate timely surgery when the optimum time arrives; correct?
A. Yes.
Q. Doctor, once a patient with prosthetic valve endocarditis develops moderate or severe cardiac failure, isn't there a high risk that

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cardiac function may suddenly worsen?
A. Over what period of time?
Q. At any point in the acute illness.
A. I'm not sure what very likely means.
Q. If the patient has a moderate to severe cardiac failure and also has prosthetic valve endocarditis, is not that patient at high risk for sudden decompensation of his cardiac function?
A. No. But again, I'm not sure what you mean by high and low, so --
Q. Well, higher risk than a patient who doesn't have cardiac failure.
A. Yes.
Q. Now, doctor, you mentioned that a high number of patients with prosthetic valve endocarditis will need surgical replacement of the infective valve.
In a patient with prosthetic valve endocarditis, what would be the indicators for recommending surgical removal and replacement of the valve?
A. There are a number of considerations. ?he particular organ which affects the valve is at times an indicator for surgery. The presence

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of structural abnormalities of the valve area, such as the dehiscence ring or the struts of the valve itself; the presence of embolization to peripheral organs, the brain or others; the inability to eradicate the infection, meaning that the blood cultures remain positive despite adequate antibiotic therapy. All these are some of the indicators that surgery is needed.
Q. If a patient with prosthetic valve endocarditis develops heart failure that's unresponsive to therapy, does that make the patient a surgical candidate barring other reasons why the patient couldn't go to surgery?
A. If the presence of heart failure is related to the compensation of the valve structure, yes -- or function, I should say, yes.
Q. Do you have an independent recollection of Gregory Colvin as you sit here today? Do you remember him?
A. ?he patient, no. Just from the notes.
Q. From your review of the record, can you tell me when Gregory Colvin first came under your care?
A. It was on May 15th. It appears that he was transferred to the coronary intensive care

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unit from the regular nursing floor on that day.
Q. And is that the only day that you saw Gregory Colvin?
A. Yes.
Q. Did you see him at any time at any of his previous hospitalizations at The Cleveland Clinic that you are aware of?
A. I'm not aware.
Q. And what is the reason that he came under your care in the coronary intensive care unit?
A. Diagnosis of infective -- or the presumptive diagnosis of infective endocarditis of the prosthetic valve was made and he had a mild degree of renal insufficiency. There was suspicion on an echocardiogram for a mitral valvular abscess, and typically we like to observe the patients under more strict care in the intensive care unit.
Q. I note that your name appears on the stamp on the clinical notes from the CICU and that your clinical note indicates that you are the CICU attending physician; is that correct?
A. Yes.
Q. Were you responsible for Gregory

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Colvin's management while he was in the CICU?
A. Yes.
Q. And as his attending physician in the CICU, what were your duties and responsibilities?
A. To evaluate the history and the physical examination and to review the progress since his admission to the hospital and coordinate the plans for future management.
Q. Did anyone ask you to specifically consult on his case when he came into the unit?
A. No. The attending. I see everybody.
Q. So he just automatically was assigned to you because you were the attending at that particular time?
A. Yes. I'm in charge of all the patients who reside in the intensive care unit at that particular time.
Q. Did you have any discussions with any of his physicians that had been caring for him prior to the time that he came to the CICU?
A. I do not recall.
Q. And if I ask you something that you don't recall, just tell me, but I need to ask it to find out whether you do recall something.
A. Sure.

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Q. From your review of the record, was there anyone else that had management responsibilities of Mr. Colvin while he was in the CICU? Aside from yourself, was there anyone else managing some component of his care while he was in the unit?
A. Well, there were consultants. The infective disease service was consulted, like in every other case of presumptive endocarditis, for the antibiotic prescription, for the optimal antibiotic prescription.
The vascular medicine service, as I saw, was involved related to anemia and to over anticoagulation. And there was a consultation placed, I believe, with the cardiac surgeons for the reason that you had stated before.
Q. Did you have any conversations that you recall with any of the consultants that were providing care to Gregory Colvin while he was in the CICU?
A. I do not recall.
Q. From your review of the record, can you tell me approximately what time you saw Gregory Colvin on May 15th of '98?
A. It appears based on the note that his

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transfer occurred after the morning rounds, but I do not know exactly the time in the afternoon when I saw him.
Q. What time are morning rounds?
A. Usually between 8:00 and 12:00, depending upon the clinic load on that particular day.
Q. So you likely saw him sometime after 12:00 noon?
A. Yes. We review the new patients that get admitted during the day.
Q. As the attending, how is it that you only saw him on the 15th?
A. I'm not sure I understand the question.
Q. You have indicated that you were his attending physician while he was in the cardiac intensive care unit.
A. Yes.
Q. And you have also indicated you only saw him on the 15th.
A. Yes.
Q. Is there a reason as his attending physician you didn't see him on the 16th or the 17th?

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A. We switched attendings in the intensive care unit on the 15th. That's the regular service.
Q. Who was the attending after the 15th then for Mr. Colvin?
A. I believe Dr. Francis.
Q. Now, you were indicating the reason that he was transferred to the CICU was because he was developing some complications; is that correct?
A. No.
Q. What's your understanding as to why he was transferred to the CICU?
A. For better monitoring of his condition because of the potential mitral valvular abscess, which was suspected on the transthoracic echocardiogram.
Q. Was he in congestive heart failure when he came into the unit?
A. Not at the time that I examined him.
Q. When you see a patient for the first time, do you review the clinical notes that have been written on the patient during the admission?
A. I review my residents' notes and I review the pertinent clinical notes from the

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other services, yes.
Q. And in Gregory Colvin's case, would you have reviewed the reports of his transthoracic echo and his transesophageal echo that were done on, I believe, May 13th?
A. I noted here that the history and the physical examination were reviewed, so I would assume that I did that.
Q. And you don't remember reviewing the actual tapes of either of those echoes; correct?
A. No. I do not recall. But I believe that there was no doubt as to the presence of severe mitral regurgitation.
Q. Do you know whether the resident or the fellow thought that Mr. Colvin was in pulmonary edema or congestive failure at the time he came into the unit?
A. If I know now or if you want me to -- oh, I can check to see. This is the admission note and it says looks stable without distress. On oxygen, was 100 percent saturations. Awaiting surgery with wide open mitral regurgitation and presented previously with pulmonary edema which had resolved by now. The plan was to continue antibiotics, diuretics as needed.

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So neither was it my impression that he was in pulmonary edema at the time of his examination.
Q. Doctor, I would like you to look back in the clinical notes at the report of the transthoracic echo that was done on May 13th. I believe it appears in the clinical notes.
A. Yes.
Q. Just take a look at what has been reported on there.
A. Yes.
Q. What does the word dehiscence mean in that report?
A. It means that the valve structure is not attached to the mitral valvular apparatus, to the heart structure itself; at least in one location.
Q. Would that be suggestive of an abscess formation?
A. It is indicative that the valve is not stable. Frequently it is associated with the presence of an abscess, although you cannot see the abscess by echo.
Q. And I believe that report also refers to a sewing ring. Can you tell us what a sewing

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ring is as it relates to a prosthetic valve?
A. The metallic structure that holds the prosthesis in place, tightened to the heart itself.
Q. Is it a structure where they actually physically sew through the ring --
A. Yes.
Q. -- in order to secure the valve to the heart?
A. Yes. The sutures actually go through the ring, yes.
Q. And what does mitral regurgitation mean?
A. Leakage of the mitral valve. The valve does not close as it should and blood regurgitates from one chamber to another and it shouldn't.
Q. So it's actually like a back flow through the valve?
A. Yes.
Q. Now, I believe the transthoracic echo refers to four plus MR. Is that four plus mitral regurgitation?
A. Three plus to four plus, yes.
Q. Are you looking at the transthoracic

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echo or the transesophageal?
A. This is the transesophageal, I'm sorry. Yes, the transthoracic, this is the transthoracic, yes. Four plus, yes.
Q. Four plus regurgitation, on what type of scale is that? Is that a --
A. One to four.
Q. So that would indicate that that was the most severe level of valvular regurgitation; correct?
A. Yes.
Q. What's the implications for four plus regurgitation in regard to the patient's cardiac function?
A. That it is unlikely that medical management alone will resolve the problem.
Q. And when a patient has four plus regurgitation, are they at high risk for cardiac decompensation?
A. Again, high is a matter of definition. It's higher than if you didn't have any, but many people have four plus mitral regurgitation on a chronic basis.
Q. But we are talking about somebody with acute prosthetic valve endocarditis that has four

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plus mitral regurgitation. Is this particular patient at high risk for sudden cardiac decompensation?
A. I'm not sure again what high means. They are ill and it means that they will need valve surgery. Many patients have well compensated severe mitral regurgitation because of the medical intervention that they were subjected to.
Q. In Mr. Colvin's case, given what you know about his condition, was he at high risk for decompensation?
A. Well, he presented with heart failure which has responded very well to medical therapy, so I would consider that he was at less risk then than he was upon his arrival.
Q. Now, doctor, I would like you to turn to the next page, which has the transesophageal report on it.
A. Yes.
Q. And you have had an opportunity to look at the transthoracic. Are the findings on the transthoracic fairly consistent with what was found on the transesophageal?
A. Yes.

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Q. And the transesophageal gives you a little more specific information; is that correct?
A. It's better definition, yes.
Q. Are there any additional findings in the transesophageal that were not present in the transthoracic report?
A. They were able to give a precise dimension of the vegetation, which I believe was not present on the transthoracic -- and again it's because of the definition of the study -- 1.3 by 10.8 centimeter. Otherwise, the findings are congruent and not very different.
Q. With the valvular vegetations -- and I believe the transesophageal also mentions that he had rocking and dehiscence of his valve -- and also the severe mitral regurgitation I think at three plus to four plus, does that mean that his heart valve was literally coming loose from the heart where it had been secured?
A. It means that it is not attached as well as it should, no question about it.
Q. And is it likely that with that report, Gregory Colvin was going to need surgery in order to correct his prosthetic valve

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endocarditis?
A. Yes.
Q. Yes, doctor?
A. Yes, I'm sorry.
Q. Based on that May 13th transthoracic and transesophageal echo, should Gregory Colvin have been referred for urgent valve replacement surgery?
A. As I said, I believe that the best time, the optimal time to repair the valve or replace it, in this case, would be when all the core morbidities have been adequately controlled and the blood cultures have remained sterile.
Q. Well, I am asking you in Gregory Colvin's case, he obviously had a valve coming loose. He had vegetations. He still didn't have positive blood cultures, but it was likely, you said, that he would need surgery to replace that valve.
A. Yes.
Q. Should he have been referred at that point after the transesophageal echo for urgent replacement of his heart valve?
A. No. The second heart operation -- even the first one -- certainly second heart

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operations are rarely done on an urgent basis, literally taking the patient from the echocardiographic suite to the operating room. Again, it's a matter of identifying what the infective organism is, whether the blood cultures are or are not positive.
I believe this was just the day of his admission, and so they couldn't know yet whether they are positive or not, because it takes a number of days for it to show up. There was some mild renal insufficiency, and again, you want to take the patient to surgery at the time of his optimal condition, not to wait too long but not to rush right away. So I think that typically patients are evaluated for a number of days unless there is a reason for immediate surgery.
Q. Even though his valve was dehisced and it was rocking --
A. Yes.
Q. -- there was reason to delay the surgery for him?
A. Very frequently, many times it takes more than a week before surgery is performed; particularly when the blood cultures remain positive, because of the concern that replacing a

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valve during bacteremia will cause reinfection of the new prosthesis, so it would be unusual.
Q. Doctor, I would like you to turn to your clinical note for us, if you would.
A. Yes.
Q. I would just like you to read through it for me. Tell me what it is that you have written there.
A. 5-15-98. CCU attending. H&P, which stands for history and physical review. 51-year-old black man with prosthetic valve endocarditis following mitral valve replacement and tricuspid valve angioplasty from February of 1998.
Blood cultures negative. Question mark. HACEK, in caps, which is a particular type of infection.
Physical examination, no dyspnea at this time. 117 over 65, the blood pressure. Heart rate, 100. No bacterial endocarditis stigmata, refers to skin findings. Lungs clear to auscultation. Regular rhythm rate. Loud mitral regurgitation murmur.
Impression, BE endocarditis, prosthetic mitral valve replacement. Negative

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blood cultures, mild chronic renal insufficiency.
Plan, antibiotics per. Swan Ganz and intra-aortic balloon pumps if becomes hemodynamically unstable, and then my signature.
Q. Any additional assessment findings other than what you have included in your note here? Was there anything else that you found in regard to Gregory Colvin that you didn't write down here in your note that you recall?
A. No. I do not recall that I would have written it.
Q. And at the time that you saw Gregory Colvin, did you believe that he needed urgent surgery?
A. No.
Q. You agree, though, that it was highly likely that he was going to need cardiac surgery?
A. The plan was to have surgery, yes.
Q. Did you take any action to refer him for surgery?
A. No, the surgeons have already been consulted.
Q. Who arranged for that surgical consult, if you know?

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A. It occurred before arriving to the intensive care unit, so the exact person is unknown to me.
Q. Do you know whether or not the surgeon or someone from the surgical service ever came down and evaluated Gregory Colvin after admission to the CICU?
A. After admission to the CICU?
Q. Yes.
A. Again, I saw him only for that afternoon and did not come back to the intensive care unit, so I don't know.
Q. Do you know if anybody from the cardiac surgery service evaluated him before he came down and you saw him?
A. I saw a note when I was reviewing the chart with you from the surgical service on the 13th, I believe.
Q. Does Cleveland Clinic have a cardiac surgical team on call 24 hours a day in case a patient needs to go to surgery immediately?
A. Yes.
Q. And once a decision is made to send a patient to surgery, how long does it take at The Cleveland Clinic to get the patient into

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surgery?
MR. SKIVER: Objection. Under what circumstances?
MS. TOSTI: His experience.
MR. SKIVER: Calls for speculation.
Q. If you have a patient in the CICU and a decision is made to take him to surgery, how long does it take before he is able to go to surgery?
A. There are instances of 30 minutes if it's needed. There are instances of an hour if it's not urgent.
Q. Did you have any conversations that you recall with Dr. Kruithoff regarding Gregory Colvin at any time?
A. No, I do not recall.
Q. How about any conversations that you recall with Dr. Paul Miller regarding Gregory Colvin?
A. No, I do not recall.
Q. When you saw Gregory Colvin on the 15th, what was your understanding as to when he would go to surgery?
A. I do not recall what I thought then, but it is my understanding from looking at the

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notes and from everybody else's notes that surgery was going to occur soon.
Q. Do you know what was meant by soon? I'm only asking if you know, doctor.
A. No, I do not know.
Q. There is a report in the clinical notes of an echocardiogram that was done on May 15th, I believe, for purposes of ruling out a cardiac tamponade. Did you order that echocardiogram?
A. No.
Q. Were there any indicators in his condition that would raise a suspicion for cardiac tamponade?
A. The only thing I can think of is the fact that his INR or the level of anticoagulation was high and I presumed that this was an indication. It occurred after I saw the patient, so I do not know exactly what led to it.
Q. You believe that the echo was done after you saw the patient?
A. It appears to be.
Q. How can you tell that?
A. Because my note ends here and then there is a note from somebody else. Then there is

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a note from 5-16 early in the morning, and this again 5-15 appears out of sequence while the other is a 5-16, so I can only presume that if it's on a page after my note that it would have occurred after.
Q. How can an echocardiogram be used to rule out cardiac tamponade?
A. It identifies the presence of fluids surrounding the heart and its consequences, the function of the heart.
Q. Do you consider an echocardiogram to be a reliable diagnostic tool in determining if there is a cardiac tamponade?
A. Yes.
Q. And is that a test that is done in the CICU?
A. It can be done portable, yes. An echocardiographic machine is brought to the patient's side.
Q. How long, if you are going to rule out a cardiac tamponade, how long does it take to do the tests specifically to rule out tamponade?
A. Five minutes.
Q. Is that true for transesophageal also?
A. No.

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Q. How long does it take for a transesophageal, approximately?
A. Usually takes about 30 minutes by the time the probe is put down. The patient needs to be sedated and the probe is advanced into the stomach and so on.
Q. Now, when Gregory Colvin came into the unit, was he placed on hemodynamic monitoring?
A. All patients are placed on hemodynamic monitoring. Not invasive hemodynamic monitoring. Blood pressure is monitored frequently, heart rate is monitored continuously.
Q. Did he have a Swan Ganz catheter in place?
A. No. As I mentioned, Swan Ganz if he becomes hemodynamically unstable.
Q. So was it your impression he wasn't going to need that type of invasive monitoring unless something else happened to him?
A. Yes.
Q. Now, Gregory Colvin had a change in his condition, I believe, on the 16th.
A. Yes.
Q. Were you notified in any regard about the change in his condition?

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A. No.
Q. Did your responsibilities in the unit end on the 15th and you turned them over to someone else as attending?
A. Yes.
Q. I want to understand a little bit better. Did you have a certain period of time which you were attending and that the 15th happened to be the day that you handed that responsibility over to someone else?
A. That's how the rotations are; from the 1st to the 15th and the 16th to the 30th or 31st.
Q. So you had like a two week time period?
A. Yes.
Q. And someone else assumed responsibility on the 16th?
A. Yes.
Q. And you believe that was Dr. Francis?
A. Yes.
Q. So once you saw him on the 15th, you had no further responsibilities for him then; is that correct?
A. I was still in charge of the intensive care unit for the night between the 15th and the

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16th.
Q. Was that an on-call or were you actually present in this instance?
A. No. I can be called if there is an issue that needs my attention.
Q. Were you called at any time in regard to Gregory Colvin after midnight, beginning May 16th?
A. I do not recall, but typically if I am notified there is a note in the chart where it's documented that they talked to me and I make accommodations.
Q. Do you have any knowledge about his care after the time that you saw him on the 15th in regard to what happened to him, or what care he received in the unit?
A. Not beyond reading the note that I mentioned to you before for the 16th.
Q. And did you make any type of clinical decisions regarding his care after you saw him on the 15th?
A. Beyond my initial note?
Q. Yes.
A. No.
Q. And by that I mean, you indicated that

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you might be called and you have no recollection of ever being called or participating any further in Gregory Colvin's care?
A. Exactly.
Q. At any point in time, did you have any conversations with Gregory Colvin's family?
A. No.
Q. At any point in time, did you have any conversations with Dr. Saunders regarding Gregory Colvin?
A. No, I do not recall.
Q. Have you ever heard any physicians complain about the system for scheduling surgical patients at The Cleveland Clinic?
A. As far as the ability to schedule or the system? I'm not sure what the question is.
Q. Any type of complaints about the system that Cleveland Clinic uses to schedule surgical patients. Specifically I'm speaking of cardiac surgery patients.
A. There are instances where there are many patients who await surgery.
Q. Have you heard physicians complain about not being able to get the patients scheduled for surgery?

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A. I witness that myself at times that I would like my patients to have surgery sooner, but I believe it's normal.
Q. Are you aware of any problems with misinformation being transmitted to surgeons regarding patients who were referred for surgery?
A. I do not understand the question.
Q. Are you aware of any instances in which there was misinformation being transmitted by the scheduling department to the surgeons about patients that were being referred to the surgical service for surgery?
A. No.
Q. Do you know Dr. Saunders?
A. Yes. He left.
Q. Are you aware of any problems voiced by any physicians regarding Dr. Saunders?
A. No. I worked with him closely.
Q. What is your understanding as to what happened to Gregory Colvin after the time that you cared for him?
A. From the note that I read from the 16th, it appears that he developed rapid atrial fibrillation which led to cardiac decompensation.
Q. Didn't they take him and cardiovert

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him to correct the atrial fibrillation?
A. Can I review this? I don't recall that part. You are asking before this happened or after it happened?
Q. After.
A. Yes. It says that he was cardioverted from atrial fibrillation to normal sinus rhythm.
Q. Wouldn't you expect if that was the problem that his condition status would have improved?
A. If the atrial fibrillation was the sole reason for his deterioration -- frequently the difficulty is the heart -- it depends how many hours he was in atrial fibrillation, and at times it requires additional support before the whole spectrum reverses.
Q. Was his cardiac decompensation as a result of his prosthetic valve endocarditis?
A. Ultimately, yes.
Q. Were you notified at all about Gregory Colvin's death?
A. I do not recall. There is a notification system that is circulated, and I do not recall whether it was in place at that time or not.

Q. If you were not attending in the CICU, there wouldn't be direct notification to you?
A. Exactly.
Q. Such as a phone call; correct?
A. Exactly. There would be a copy of a memo that circulated.
Q. And you had no conversations with the family after Gregory Colvin died; correct?
A. No.
Q. If Gregory Colvin had been taken to surgery for valve replacement on or before May 15th, do you have an opinion as to whether his death would have been preventable?
A. If the surgery were successful, yes.
Q. Do you have an opinion as to what point in time his condition became irreversible?
A. No.
Q. Do you have an opinion as to whether Gregory Colvin should have been taken to open heart surgery sometime prior to his death?
A. Obviously the desired outcome, but I don't think there was a point in time which would have mandated emergency open heart surgery, according to the notes that I read.
Q. If he had undergone appropriate

antibiotic therapy, his infection cleared and he had undergone successful valve replacement surgery, do you have an opinion as to what his reasonable life expectancy would have been?
MR. SKIVER: Objection. Go ahead, doctor.
A. As I said, the immediate success of repeat valve surgery is about 90 percent. And the failure in the two to five years after that is anywhere between 30 and 40 percent. There is still substantial morbidity.
Q. Do you have any criticisms of any of the care that was rendered to Gregory Colvin?
A. I was involved in it too little to comment. I believe that this reflects the standard of care in terms of careful monitoring in an intensive care unit.
MS. TOSTI: I don't have any further questions for you, doctor.
MR. POLITO: I have no questions.
MS. KINKOPF-ZAJAC: no questions.
MR. SKIVER: He will review it.
- - -
(Deposition concluded at 3:00 p.m.)
(Signature not waived.)

AFFIDAVIT

I have read the foregoing transcript from page 1 through 58 and note the following corrections:

PAGE LINE REQUESTED CHANGE

SORIN JAKOB BRENER, M.D.

Subscribed and sworn to before me this day of ,2000.

Notary Public

My commission expires

CERTIFICATE

State of Ohio,
SS:
County of Cuyahoga.

I, Vivian L. Gordon, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that the within named SORIN JAKOB BRENER, M.D. Was by me first duly sworn to testify to the truth, the whole truth and nothing but the truth in the cause aforesaid; that the testimony as above set forth was by me reduced to stenotypy, afterwards transcribed, and that the foregoing is a true and correct transcription of the testimony.

I do further certify that this deposition was taken at the time and place specified and was completed without adjournment; that I am not a relative or attorney for either party or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Cleveland, Ohio, on this 12th day of September, 2000.

Vivian L. Gordon, Notary Public
Within and for the State of Ohio

My commission expires June 8,2004.

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AFFIDAVIT

I have read the foregoing transcript from page 1 through 58 and note the following corrections:

PAGE	LINE	REQUESTED CHANGE
9	16	Interventional Typo
12	18	Braunwald, Topol's, The Heart Typo
18	3	Add skin before Stigmata - Transcription
24	25	Defined Transcription
26	4	Heart rate Transcription
28	9	Value regurgitation Transcription
31	15	Decompensation Transcription
33	11	As the attending, I ... Transcription
42	12	0.8 – not 10.8 Typo
43	12	co-morbidities Transcription
45	2	Wouldn't Transcription
46	3	All per ID Transcription

See over Verso

SORIN JAKOB BRENER, M.D.

S. Brener

Subscribed and sworn to before me this day of 9/26, 2000.

Laura D. Reinhard
Notary Public

LAURA D. REINHARD
Notary Public, State of Ohio, Cuy. Cty.
My Commission Expires 03/26/2005

My commission expires 03/26/2005

page	~~line~~		
18	46	11	Otherwise instead of that Transcription
19	53	12	Recommendations
1 --	2+23		"Staph" should be "staff"

Staff cardiologist and any other lines where it is used incorrectly