CUYAHOGA COUNTY COURT OF COMMON PLEAS

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TRACY ANN SMITH, et al.,)
Plaintiff,)
vs.) No. 327828
UNIVERSITY HOSPITALS OF CLEVELAND,)
et al.,)
Defendant.)

DEPOSITION OF

RAFAEL PELAYO, M.D.

PALO ALTO, CALIFORNIA

OCTOBER 21, 1999

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Defendant.)

Deposition of RAFAEL PELAYO, M.D., taken on behalf of Defendant at 401 Quarry Road Street Suite 330 Palo Alto, California commencing at 12:14 p.m. Thursday October 21, 1999 before Barbara H. Gonzalez, CSR No. 4646.

APPEARANCES

FOR THE PLAINTIFF:

BECKER & MISHKIND CO., L.P.A.
BY: JEANNE M. TOSTI, ATTORNEY AT LAW
1660 W. Second Street, Suite 660
Cleveland, OH 44113

FOR THE DEFENDANT:

MOSCARINO & TREU
BY KRIS H. TREU, ATTORNEY AT LAW
812 Huron Road, Suite 490
Cleveland OH 44115

I N D E X

QITNESS: RAFAEL PELAYO, M.D.

EXHIBITS

LETTER	DEFENDANT'S DESCRIPTION	PAGE
A -	Polysomnogram Report (Marked off the record)	

RAFAEL PELAYO, M.D.,

having been duly sworn, was

examined and testified as follows:

EXAMINATION

BY MR. TREU

Q. Doctor, my name is Kris Treu and I represent University Hospitals of Cleveland and a case has been filed in Cuyahoga County Ohio regarding a patient Tracy Ann Smith.

I'm going to ask you some questions today and you've been recommended to be an expert on behalf of plaintiffs, and the purpose of my coming here today is to find out what your opinions are relative to this case. All right?

A. Okay.

Q. If at any time you don't understand a question I ask you, please let me know, I'll be happy to rephrase it so it's understandable to you. Fair enough?

A. Yes.

Q. On the other hand, if you answer a question, I'm going to assume you understood it. Is that fair?

A. Yes.

Q. And please keep your responses verbal for the court reporter.

A. Okay.

Q. Would you please state your full name for the

reporter?

A. Rafael, R-a-f-a-e-1 Pelayo, P-e-l-a-y-o.

Q. Your professional address doctor?

A. Stanford Sleep Disorders Clinic 401 Quarry Road Stanford, California 94305.

Q. Have you given deposition testimony before Doctor?

A. Yes.

Q. Can you give some sense of how many times?

A. One time.

Q. Was that in the context of being an expert witness?

A. Yes.

Q. Have you ever given a deposition in the context of being a Defendant in a lawsuit?

A. No.

Q. So, this is the second time you've ever given a deposition?

A. Yes.

Q. I've been provided with a copy of your CV, and is this CV that's been provided to me accurate and complete as we sit here today?

A. Yes. I have a publication coming out November 1st. I have not included it yet.

Q. And where is that going to be published?

A. Archives of Otolaryngology Head and Neck Surgery.

Q. What is the title?

A. It's a letter to the editor and it's on re-surgical sleep studies in children.

Q. Do you subspecialize in pediatric sleep disorders?

A. To an extent. I work with both adults and kids.

Q. Can you break down the --

A. More adults than kids. Probably at this point wo-thirds adults, maybe little more than that 70 percent adults; 30 percent kids.

Q. Are there more adults that present with obstructive sleep apnea than children?

A. Yes.

Q. What is the history of sleep medicine? Let me ask you this first so I'm not asking silly questions: How do you lescribe-- how should I state your practice, your specialty?

A. I'm full time working treating patients with complaints about their sleep, one type or another.

Q. Is sleep medicine a fair term to use?

A. Yeah, sleep medicine is the official term that's used.

Q. All right. Go back to my other question. What is the history of sleep medicine?

MS. TOSTI: Objection.

BY MR. TREU:

Q. You can answer.

A. Well, people have been sleeping of course since

people have been around. Physicians have always been involved in patients' sleep as a distinct medical subspecialty.

Q. Yes.

A. They think of it as starting around 1972 if you have to give it a year. And that was when courses were being offered for physicians to focus on sleep disorders of their patients. Specifically '72 is usually the jump-off point for that.

Q. All right. Have there been sleep studies available since that time since 1972?

A. Sleep studies of people sleeping have been going on before that time, but as a clinical entity where patients came into doctors' offices for sleep studies, again '72 is when it started.

Diseases like narcolepsy have been around for centuries. Sleep apnea, that has been around before the turn of the century. There were descriptions of it before it was given a different name.

So, again '72 is usually used as a good time as the modern age of sleep medicine I would think.

Q. What's the definition of narcolepsy?

A. Narcolepsy is a chronic neurological disease characterized by excessive sleepiness and cataplexy. Cataplexy is sudden loss of muscle tone associated with

intensive motion.

You also have something called hypnagogic hallucinations and sleep paralysis. If you're talking sleep, there is actually 88 different sleep disorders. Narcolepsy or sleep apnea is just one of many.

Q. Do you have any sense of how many sleep study laboratories there are around the country?

A. There's two types, accredited and non-accredited.

Q. All right.

A. And accredited sleep laboratories, I believe there is aboct 300 or so at this point. I may be off on that rlumber. But in every hospital in the universities, somebody is doing sleep medicine. In every hospital somebody will be dabbling in it.

Usually somebody in the pulmonary department for example.

Q. Was there a time when most of these labs came into being or has it been over time? Is there a certain year or years?

A. Again, early '70s is when it all kind of started being organized. I guess that's the way you can think of it as organized sleep medicine; early '70s. I think maybe '79 is the date that's sometimes used for the formation of an organization to oversee the sleep labs.

Q. What is that organization?

A. It's now called the American Academy of Sleep Medicine, formerly called the American Sleep Disorders Association. That was a very recent name change.

Q. Can you describe for me the level of awareness in the medical community of these sleep disorders clinics in 1995?

A. Can I go back?

Q. Sure.

A. On the letterhead, it has the date it started '75; not '79. Please repeat the last question.

Q. Last question was can you describe for me the level of awareness in the medical community of the sleep disorders clinics in 1995?

MS. TOSTI: Objection. Are you asking his level of awareness? Are you asking him to testify for all of medicine?

MR. TREU: I'm asking what his understanding is obviously.

MS. TOSTI: As to his level of awareness in 19 --

THE WITNESS: '95.

MR. TREU: I'm not asking his level of awareness, what his experience has been with the awareness of your specialty in the medical community, in your experience.

MS. TOSTI: I'll enter my objection and if you can answer it Doctor, go ahead

THE WITNESS: Should be generally well known because the American Medical Association, the AMA recognized sleep medicine as a distinct medical specialty in the 1990s.

Q. When was that?

A. The exact date I don't know. But there was a time when people used to refer to themselves as internal medicine with an interest in sleep and check off the little boxes on the form. But they put in sleep medicine and the American Academy of Sleep Medicine as delegates of the American Medical Association.

There is a Board of sleep medicine. So my understanding is that in the general medical community there was awareness of the existence of organized sleep medicine definitely present in 1995.

Q. When was there a Board specialty available in sleep medicine?

A. I believe it was in the mid 1980's that they incorporated; however they formalized these boards -- was in the mid '80s.

Q. Can you describe for me the risk factors for sleep apnea in adults?

A. Adults with sleep apnea, the risk factors would be of family history of sleep apnea. Obesity is a risk factor of sleep apnea.

Having cranial facial anomalies would be a risk

actor for sleep apnea.

Q. Are those risk factors the same in children?

A. They're similar.

Q. Are there any differences?

A. Children aren't necessarily obese but they're the same risk factors essentially.

Q. All right. Do you spend the 100 percent of your clinical practice in sleep disorder-- sleep medicine?

A. Yes, sir.

Q. What you are Board certified in, what --

A. I'm Board certified in sleep medicine and pediatrics.

Q. And did you pass those examinations on your first attempt?

A. Yes.

Q. Have you ever taken the boards in neurology?

A. Yes.

Q. And did you pass them?

A. No.

Q. How many times did you tak them?

A. Twice.

Q. Took neurology, adult neurology twice. It's just one board for adult and children?

A. It's a sub branch of the exam but to clarify, child neurology is a subspecialty of neurology; so it's adult

neurology. The adults and pediatrics is going to be on the exam. It's the same exam for both.

Q. All right. That's fine.

A. For the written part there is a separate oral part that's separate but the first part is all the same.

Q. So, you've taken the written twice and haven't passed those?

A. Yes.

Q. When was the last time you took them, that exam?

A. Maybe three years ago. Maybe. I'm not sure.

Q. Do you have any of plans to take it again?

A. I should eventually. But it's not a priority for my work here.

Q. All right. You have admitting privileges?

A. I guess I do. We're an outpatient based facility so I could admit if I wanted to. I've never used them.

Q. What, so you've never admitted a patient to the hospital?

A. I've never admitted in a hospital here as an attending? No.

Q. Right.

A. My previous work I admitted patients when I worked in New York; for example I worked in the emergency room. I admitted to the floor.

Q. How long have you been here?

A. Six years going on seven.

Q. Prior to that, where were you?

A. It was in New York City. I was doing my training in neurology but I also was doing part-time work in the emergency room. So, as an emergency room physician I could admit to the floor.

Q. So a lot of places -- the reason I ask, a lot of emergency room docs cannot admit patients.

A. As I'm saying this, I understand your question better. I was not the doctor responsible for the patient once they're on the floor, so I had to have somebody accept them to the floor.

Q. Right.

A. So, I didn't admit them.

Q. You're not the admitting doc?

A. I've never been the admitting doctor.

Q. So, what happens then if you have a patient you see here at your outpatient facility and that patient needs to be admitted; have you ever had that situation?

A. If somebody had to be admitted to the hospital because something bad happened to them in our company, I would call 911 and they would be sent by ambulance to the emergency room and we'd notify their physician.

Q. Probably doing this out of order. Why don't you describe for me what your practice is.

A. The daily routine for me, come to work, I review the preceding night's sleep studies. We have trainees with us, fellows and we review them together.

We do that for couple of hours and then we will start seeing the patients for the day. And I see the patients either by myself or with one of the fellows, that is and that's the bulk of the work.

Q. How long does it take when you say you review the sleep studies, how long does it take to go through one of those studies?

A. Depends on the complexity of the case. Average is maybe twenty minutes, forty minutes sometimes.

Q. What makes one case more complex than another?

A. The number of abnormal events that they have. What we're looking for on the study.

Q. If you're looking through and you're not seeing any abnormalities, things look real good, you can get through that in twenty minutes or so?

A. That's right.

Q. If there are abnormal things, you look at it more closely?

A. Right. I can play around with it, with the data to show something more in detail, fine tune something, focus on something in particular we want to look at.

Q. How big is your --

A. Can I explain this a little better? We review the lata but then it gets-- we review it one more further time ifter that. Usually the studies get two passes.

Q. All right. By the same individual or different?

A. Typically by the same physician.

Q. How many physicians do you have who are in this practice?

A. In this office there are four full-time sleep experts, one part-time sleep expert and five fellows; so a total of ten doctors.

Q. All right. Does your facility here have some kind of an accreditation to teach fellows in this specialty?

A. Yes, we do.

Q. And who provides that accreditation?

A. The American Academy of Sleep Medicine has a process for accreditation.

Q. So, you are a recognized program here?

A, That's right.

Q. Do you know if the University Hospitals sleep facility was an accredited training program in 1995 when this patient was seen?

A. I don't think it was, but I may be wrong.

Q. All right. How many sleep studies does your facility or your practice here do in a week?

A. We have seven bedrooms we run six days a week, so

maximum 42 per week of what we call in-lab sleep studies. That's the maximum 42.

There are averages more like 36 to 42 per week but we also have portable sleep studies that we can use and we can do up to five a night of those. And I don't know how many a week we do of those. Maybe 20 a week of those.

Q. Was the staffing of your facility the same in 1995 as it is today?

A. Do you mean the same number of people or the same actual people?

Q. Same number of people.

A. We expanded bedrooms. I think we only had six bedrooms in 1995 and now we have seven bedrooms so they have to hire additional clinical staff for that.

Q. But did you have the same number of doctors and fellows on board?

A. No. We had maybe one doctor less and only had two fellows. The fellows fluctuate year to year how many we have.

Q. All right. What is the wait to get a sleep study done in your lab at this point in time?

A. Depends on the situation. If the patient-- it can fluctuate from one day if we think it's an important matter; we can do them the same day. Sometimes we have six to eight week wait on some patients. We triage it.

Q. What would lead to having a patient do it like that lay or the next day?

A. Some patients are-- already come from out of town and they already know this is what they want to do. Sometimes we get a call from the hospital or doctor's office saying a patient has a problem and they want to get it taken care of and if there is a cancellation, they can take the cancellation spots or if it's a particular problem, we will call the patient who is scheduled to come in that night and ask if someone wants to give up their spot for somebody who is sick and do it that way.

Q. But the routine patient would be six to eight weeks?

A. That's the maximum. I can't say what the average is.

Q. All right.

A. It depends which type of sleep study. We have portable studies, there is no real wait. For the in-lab one there is a longer wait.

Q. All right.

A. And eight weeks is our extreme.

Q. Are there --

A. Actually ten weeks is the outlying to be fair, an extreme would be ten weeks but not that long for most patients.

Q. But a month would not be unusual?

A. For an initial study, no.

Q. Are there any other sleep labs around-- I say around. That's a pretty broad term but you're aware of in the area where these patients can go?

A. Here in the California bay area?

Q. Yes.

A. Yes. There's one across the street. There is two in San Francisco, there is one in San Jose. Those are accredited sleep programs. There are as I said, many hospitals have people doing sleep studies.

Q. All right.

A. Accredited sleep centers, there is at least half a dozen around here.

Q. All right. What percentage of your professional time do you spend in the active clinical practice or teaching of your specialty?

A. I'm almost hundred percent clinical.

Q. Teaching responsibility in the context of your fellows I take it?

A. Correct. I also give lectures.

Q. All right. I asked you about the number of accredited facilities in the area. You said there are at least a half dozen around.

Was that also true in 1995?

A. I don't think that number has changed recently,

Q. Your CV lists a number of publications. And what I'd like to know is whether any of these publications have m y bearing to the issues in this particular case?

A. I believe most of them do, most of them are about sleep apnea one way or the other. Maybe a couple on narcolepsy that are not; but even those may touch on sleep apnea.

Q. All right. You have some file materials here in front of you, and I'd just like to take a look at these if I could.

Got a black binder here entitled "Medical records of Patricia Ann Smith." And I assume these were provided to you by Ms. Tosti's office?

A. That's correct.

Q. Did you make any markings in these records Doctor, when you reviewed them?

A. Your thumb is on one of them.

Q. There is a bunch of writing on this page. This is the sleep study report?

A. Yes.

Q. And it's under a tab that is marked "Records provided to family." And what writing on this document is yours?

A. The handwriting is mine.

Q. All of the handwriting on this?

A. Yes.

Q. Let me ask you some --

MR. TREU: What I'd like to do is we can mark a copy of this if you'd like afterward Jean, if that's agreeable to you rather than mark this one, the Doctor's original. Okay?

MS. TOSTI: See if I've got one. No.

MR. TREU: Is that agreeable?

MS. TOSTI: Yes. I thought I had a sticker but I don't.

BY MR. TREU:

Q. Why don't you explain to me why you wrote the things you did on this page, Doctor.

A. The report that we have says that the --

Q. First of all, is this a preliminary or the final?

A. This is the only report.

Q. All right.

A. From, with the numbers on it says "Normal sleep architecture." The comment that is typed in and I put question mark next to that.

Q. Why?

A. Because it's not normal. The percentage of stage 4 sleep is high for somebody her age. It's 31 percent, I wrote "31 percent stage four."

Q. Where *is* that 31 percent number? I see your writing. Where did you get that from?

A. It's stage 4. The 3 and the 4 you add them up, 25 plus 6 is 31. Slow wave sleep, this is commonly referred to as slow wave sleep. Somebody her age should be less than ten percent. Ten percent, maybe 12 on the outside. So I thought that was a high number.

Q. All right?

A. And the fact it's high, it's not a normal sleep architecture. That's all the-- they have different categories of abnormal breathing events. One is hypopneas, one is partial obstructions and the other one is obstructive/mixed apneas.

It's semantics, so it could be hypopneas and partial obstructive, people do argue are very similar if not same thing. It depends on how you define them and there's controversy in the field of how to define the episode.

Q. That being the --

A. Hypopneas. So I write "What's the difference?" Because some people would lump these together and some would split them and it's a question of what is the way they do things at that particular laboratory.

Q. And why did you circle the numbers next to those, because of those headings?

A. Because these three numbers, the 129, 145 and 59

are used to calculate the Respiratory Disturbance Index. And again some laboratories only compile hypopneas and apneas and don't include this extra category that they include.

So I just wanted to see how they were getting their numbers. I was doing the math backwards to determine this number. So that's the arithmetic you see on the side adding up what they did and see how they come up with that number.

Q. What, did they include all those numbers in their 45 percent calculation?

A. Yes. I wrote "How defined?" I'm asking how did they define this number and I need to do the math backwards to figure it out.

Q. Are you telling me then in some labs they would not include the partial obstruction in that calculation?

A. They wouldn't, You put them in a separate category.

Q. They still include them in the total number?

A. Exactly. But not every lab does that.

Q. What do you do?

A. Well, we have two different numbers that we use. Two different summary numbers, one is called the apnea hypopnea index which is apneas and hypopneas together.

And in many places that used to be the same as the Respiratory Disturbance Index and that's been a standard for a long time. Just recently, just a few months ago the

American Academy of Sleep Medicine recommended breaking it up into Respiratory Disturbance Index and the Apnea Hypopnea Index and they saw the distinction between those two numbers.

And a part of the research came from Stanford. So, that's all, I just-- it's technical things. And the bottom line is no matter how you slice it, it's severe.

Q. The question I have is would using a different formula or approach as you have indicated, give you a different disturbance index?

A. Yes. The disturbance could have gotten a different number, Disturbance Index.

Q. Lower or higher?

A. It would have been-- I'm not sure because I don't know how they define partial obstructions clearly. Dr. Brooks does talk about it in his deposition. If I could actually physically talk to him, we could I'm sure hash it out and my sense is that what he calls partial obstructive would have fallen in the category of hypopneas and it would have all ended up with the same number.

Anyway, it caught my eye they actually include a separate category.

Q. All right. So the numbers down the right-hand side of the page are calculations associated with that disturbance index number?

A. Yes. Just doing the math backwards to see how they

ame up with that number.

Q. And what about down at the bottom of the page, it looks like you have put a box around Dr. Brooks' name?

A. That's correct.

Q. Is there a reason for that?

A. Because I recognize his name.

Q. You do?

A. Yes.

Q. How do you recognize his name?

A. I've met Dr. Brooks.

Q. In what context?

A. Professional meeting.

Q. All right. Once or --

A. I think at two separate meetings I've met him.

Q. Has he been a presenter at those meetings?

A. He participated in a, kind of did a round table forum and he was at the table. So that's when I saw him,

Q. All right.

A. And then another time it was in the hallway passing, he stopped to say hello to somebody and I saw him.

Q. Are you familiar with any of his publications?

A. No, but I do know that he has expertise in pediatric pulmonary medicine and since I'm involved in pediatric sleep, there's not many of us; so it was name I recognized.

Q. Do you have any knowledge of his expertise in this rea?

A. It's my understanding he's an expert in sleep edicine. He's involved in organized sleep medicine.

Q. And what did you write down here?

A. "Why wasn't CPAP/BPAP started?"

Q. And that is based on what you see in this report?

A. That's right.

Q. You believe that should have been started?

A. That's right.

Q. Anything else on here that you wrote?

A. No, that's it. Drawing a line, trying extrapolate the numbers.

Q. Anywhere else that you made notations in these records?

A. Not that I recall.

Q. Not on the autopsy or anything? Want to take a look?

A, I did.

Q. What did you, what markings did you make on here and why?

A. I noted there was a precordial puncture mark and they write one, 50 milliliters of serosanguinous pericardial fluid. That's just the autopsy finding.

So I wrote "pericardial tamponade." I'm wondering

that this meant. That's probably when they tried to resuscitate her that they stuck a needle in the chest. And I wrote "No MI," no myocardial infarct, "therefore sudden death," question mark.

Q. Can you explain to me a little bit more why you made those notes?

A. The question is why did she die.

Q. Yes.

A. And the autopsy tells you what physical findings were present at time of death but you have to from there try to extrapolate and it looks like although she had evidence of heart disease, they did not find an actual infarct there.

So she didn't have a myocardial infarct. Therefore, she must have died of what's called sudden death, probably an arrythmia that caused her death.

Q. Is that-- have you reached an opinion to a degree of probability in this case as to the cause of death?

A. Yes.

Q. And the arrythmia?

A. Probable cause of death was sudden death in sleep of probably an arrythmia exacerbated or contributed to as a cause by her obstructive sleep apnea syndrome.

Q. Can you explain to me the mechanism of how the sleep apnea, the obstructive sleep apnea contributes to an arrythmia causing death?

A. There is epidemiological data associating the two conditions. Cause and effect is hard to say in medicine. However, what is thought to occur is that when somebody is not breathing, there is not enough oxygen getting to the heart and since the heart needs oxygen to function, when the heart has less oxygen available to it; it becomes irritable and starts firing incorrectly and the abnormal bolts is what's called an arrythmia and arrhythmias are associated with death.

Q. What is obstructive sleep apnea?

A. Obstructive sleep apnea is a condition where people stop breathing while they're sleeping because of blockage in their throat typically.

An apnea is a Greek word that means lack of air and obstructive sleep syndrome is somebody who stops breathing in their sleep due to a blockage and has symptoms of the condition.

That's what the word "syndrome" implies.

Q. What is the obstruction usually? Is it usually one particular thing?

A. The obstruction of obstructive sleep apnea, it can be from different sites in the throat but it's a throat problem. Somewhere in the throat is the blockage.

It could be the tongue sliding backwards, it could be the walls of the pharynx, the sides of the throat

collapsing. It could be a tumor in the throat could cause a blockage. But some kind of blockage in the throat causing the problem.

If you want me to explain it further?

Q. Sure.

A. Your throat is kept opened by a group of dilating muscles in the throat and when you fall asleep the muscles relax. And when the muscles relax, they can collapse.

Q. Constrict the airway?

A. Exactly.

Q. I understand that at least one of the treatments for this disorder is CPAP?

A. That's correct.

Q. And what other than CPAP? You wrote down slash something?

A. BPAP is a variant of CPAP.

Q. What is CPAP and why is it a treatment for this disorder?

A. CPAP stands for continuous positive airway pressure and it's a treatment for the problem because the reason the walls are collapsing down, the muscles are relaxing but what's making them kind of implode is you're sucking in air.

So in order-- you must create a vacuum in your chest to inhale. So you suck in the air, the walls collapse, The CPAP acts, it's a splint to keep the walls separate so

they don't collapse.

That's why it's positive airway pressure to counteract the negative force of the lungs sucking in air to inhale. That's why it's a treatment.

Q. And what physically is it CPAP? Is it a mask or --

A. It's a small air compressor attached to a hose that is a fitted mask over the person's nose typically.

Q. And it's continuous so it's a continuous positive flow?

A. Right. While they're sleeping of air, just air pressure; just room air.

Q. So, it's not even attached to oxygen?

A. No.

Q. Just room air?

A. It could be attached to oxygen if necessary but usually not.

Q. What's the other variant of CPAP?

A. Bilevel.

Q. And that is what?

A. Bilevel is instead of a continuous steady pressure when you inhale, you're sucking in a certain pressure. But when you exhale, you blow out against a pressure and some patients, particularly patients who are overweight, have trouble letting out against a pressure.

So there are machines that sense when are you

exhaling and lower the pressure for you, therefore you have a two pressure system, bilevel.

Q. Are there other treatments for this disorder?

A. Yes, there are.

Q. What are they?

A. Surgery, might have been used since the beginning for this condition.

Q. What kind of surgery?

A. There are different kinds of surgery. You want me to elaborate?

Q. Sure.

A. Tradition historically was tracheostomy, putting a hole in somebody's neck, by-pass the obstruction. These days they'll remove the soft tissue in the back of the throat that's causing the obstruction.

So, for example if somebody has large tonsils they can remove those. If the tongue is big, it can be flattened out in the back. If the nose is blocked because of large turbinates, they can be removed or the uvula could be cut if that's what's causing the blockage.

Some type of throat surgery.

Q. Whatever you identify as the obstruction, do something to take care of it?

A. Open up the space.

Q. All right. Are those essentially the treatments?

A. There's four types of sleep apnea.

Q. All right.

A. Mild cases, we tell them to use an oral appliance; something they can get made from a dentist; oral appliance and what that does is moves the tongue forward.

Q. All right.

A. And again mild cases, we tell them to sleep on their side, lose weight, avoid alcohol. For somebody like her, CPAP was the correct treatment.

Q. And the reason is what?

A. Because of the severity of condition.

Q. What's this note here?

A. The autopsy record mentions that she had multiple thyroid gland adenomas. So my question mark says "hypothyroid," because that's something wrong with her thyroid and I was wondering had anybody checked for thyroid function.

This suggests since she had problems with her weight, people that have low thyroid can gain weight.

Q. Did you look back to see if that had been addressed?

A. I didn't see it.

Q. What are adenomas?

A. Adenomas are benign tumors.

Q. Did they know if these were benign at the time of

sutopsy, did they test those?

A. Adenomas is usually used for benign, actually a gland producing tumor I believe. I'm not a pathologist so I don't want to get tripped up on that but when I hear the word "adenoma," I think it's more of a benign tumor, contrasted to sarcoma which is usually aggressive.

Q. My question was do you know if at autopsy, they did anything to biopsy these adenomas?

A. I don't know.

Q. The next page of the record of autopsy, what are these notes?

A. There is a description of the basic gross anatomical finding and we know the patient is asleep so I'm curious as to what her throat is like and there's no description of the throat, pharynx or tongue in the patient and I write "Did anybody look in the mouth?''

Just wondering whether an autopsy in general, do people look inside the mouth. There is a comment in the section that says the mouth is normal, but is that the inside of the mouth or outside of the mouth? That's all.

You had asked about microscopic or pathology stuff, it would be in there.

Q. Yes. Where were those adenomas? Doesn't say?

A. I think it means they're benign. Microscopic description says adenoma, so they're benign.

Q. Is this your circle on the 25 here?

A. Can I take a look? Yes.

Q. Again just so it's clear from the record, this is another copy of the sleep study. This one is under the tab University Sleep Study 2-6-96. And stage-- it says under stage 4 has a percentage of 25 percent and you've circled that and why?

A. That's a high number for that age. And they said there was normal sleep architecture; but that number is high.

Q. So you disagree with the conclusion of normal sleep architecture?

A. Yes.

Q. Now we're under the tab that says "Family Practice Notes." And the first page under that is a document that says "Family Practice Data Base" up on the top and it is dated 4-20-92 and looks like you have written something in on that page?

A. Yeah. It says, looks like it says it's a photocopy, but it says BT and another letter. I wrote "BTC" question mark, but I think it means BTL bilateral tubal ligation. I wasn't sure what a BTC was when I first saw that photocopy.

Q. All right. This is a page entitled "Patient's Notes" under date of-- hard to say. Do you see a'date Doctor?

A. I don't see a date. It's only-- but it was between the August and the December of '93 visit.

Q. All right. And you have put a star on the right-hand side of the page. Is that your writing?

A. That's right.

Q. Why did you do that?

A. Says "poor sleep." One of the early mentions in the chart of her having a sleep problem.

Q. Is that the first time you noticed a mention in the chart of her having poor sleep or any sleep problems?

A. I'd have to look back and see. That was the first time I saw it nicely spelled out.

Do you want me to go back to the beginning and look?

Q. I don't think it goes back that far, so yes I guess I would.

A. There may have been the word "fatigue" somewhere before there but I have to try to track it down. Looks like it's here is the first time.

Q. And again that's sometime between what two dates?

A. There is no date on the page but if the page is in the right order, it would be between August and December.

Q. Of '93?

A. '93.

Q. All right. You're not saying that a sleep study

should have been recommended that early, are you?

A. I would have done it even sooner.

Q. You would have?

A. Sure.

Q. When?

A. When she showed up with obesity, hypertension. Those are symptoms associated with sleep apnea.

Q. Obesity and hypertension alone?

A. She had hypertension.

Q. Based on those two findings, you would have recommend a sleep study?

A. I would have asked about her sleep. I would have asked about her sleep, I would have inquired about her sleep; because those are things we associate with sleep apnea.

You have to distinguish ordering a test versus asking about her sleep.

Q. Let me ask you this:

A. And if I had asked about her sleep and she said she snored, I would have ordered a study.

Q. Do you consider yourself an expert in internal medicine?

A. No.

Q. Are you an expert in family practice?

A. No. I have lectured to family practitioners and primary care physicians on sleep medicine. So, I've been

involved in other treatment.

Q. I understand that, but that being said, do you intend to offer an opinion in this case that the family practice doctors should have recommended a sleep study earlier in this case?

A. Earlier than when?

Q. Earlier than they did.

A. Yes.

Q. And what is the basis of that opinion given the fact that you are not an expert in internal medicine or family practice?

A. Because she's complaining of fatigue and being tired and it's appropriate for a physician to think about why she's complaining of poor sleep and fatigue and I'm not an expert in internal medicine, but it's a general medical thing to do.

Q. Are you intending to offer an opinion that the family care doctors failed to meet some accepted standard of care by not offering or recommending a sleep study earlier in this case?

A. That's not my intention.

Q. All right. Prior to this note that you have started between August and December of 1993, did you find any reference in the records to any mention of fatigue or sleep related difficulties?

A. I don't see any right now. Memory is that I thought there had been something about fatigue at some point earlier but I don't see it right now. There are a lot of abbreviations.

I'm not catching it so I would have to say the earliest would be here, this note.

Q. That note is written under a title that says "Depression Inventory"; correct?

A. That's correct.

Q. And I see some more stars on a date of January 27 '94.

A. Yes. It says "Fatigue since before Christmas." Concerned about fast heart, irregular beats. So I starred those because they're pertinent to sleep apnea.

Q. I can't tell if this is, the circles on the blood pressure are yours or were they there before. Can you tell?

A. I think they were there before, sir.

MS. TOSTI: I can probably tell you if you tell me what date you're on.

MR. TREU: 2-14-95.

MS. TOSTI: My copy has circles on it.

MR. TREU: Thank you.

MS. TOSTI: So, it had to be original

MR. TREU:

Q. If you see anything you marked on here that I'm

passing up, will you let me know Doctor as I'm leafing through here?

A. Okay.

Q. Looking to see if they checked that questionable diabetes?

A. No.

Q. What?

A. You had asked about the thyroid.

Q. Were those thyroid studies?

A. No, I didn't see any. Keeping my eyes opened.

Q. There's some circles here. What does that indicate to you?

A. According to their scale that's a thyroid screening and it's normal.

Q. And that is-- what date is that? That's 2-14-95?

A. That's correct.

Q. Did you circle this hematocrit number?

MS. TOSTI: Let me see and I can look at mine

THE WITNESS: Yes, I may have but I don't remember why I would have circled it. Just to note that it was normal

BY MR. TREU:

Q. Because it's in blue pen?

A. It looks like I may have circled it and if it's circled because it's normal. If it's blue, it must have been me. Nobody else has looked at this.

Q. That's what I guessed. The letter dated 13 November 1995, you have written a note?

A. If you read the letter, it has kind of a little condescending tone. To me in my experience as a physician writing to a patient when he says "We have no magic to help you."

It's kind of-- I don't like that choice of words from a resident. I think it's a little disrespectful but a minor thing, "We have no magic," to take that uncertainty away. And I write "OSA treatment should help with the symptoms she's having."

Q. What's an OSA?

A. Obstructive sleep apnea. I don't know if you'd like to get a note like that from a doctor.

Q. Just so it's clear, what is that doctor?

A. That looks like it's Dr.-- it's a neurology department evaluation of Patricia Smith and it looks like it's Dr. Collins' initial evaluation.

Q. November 16th '95?

A. Right. I don't know if initial is the right word but it's an office visit with Collins.

Q. And what you've written something on the last page?

A. Sentence goes on at the end of all this, they also brought up the fact her daughter says she snores and wonders if she has sleeping problems.

"Told her I would speak to Dr. Collins and see if it is helpful to have further sleep evaluations." To me I wrote "If a sleep evaluation of some type would have helped this patient."

Q. In your stack of materials you have, you also have a deposition of Craig Whiting, M.D.?

A. Deposition of Tracy Ann Smith. Deposition of Geneva Smith, deposition of Dr. Kevin Martin, deposition of Lee J. Brooks M.D., deposition of Michael Rowane, D.O., deposition of Steven Collins, M.D.

And deposition of Mary Hlavin, M.D.

Q. Are those all the depositions you had available to you, Doctor?

A. Yes.

Q. Did you read them all?

A. Yes.

Q. Did you make any markings in any *of* these depositions?

A. Some of them I did.

Q. Do you know which ones without looking through?

A. I'm sorry, Probably the ones, the three people was Collins, Brooks and Rowane were the three main physicians that I focused on more.

But if I'm reading something, I stop, I put a line where I'm at. Some lines are just lines keeping track where

I am at at the time.

Q. So any markings in these transcripts would be yours?

A. Should be.

Q. I see some notes in Dr. Brooks' deposition?

A. Yes.

Q. We have a note here on page 120 of Dr. Brooks' deposition that says "Below 60 percent, machine is not re1iab1e"?

A. That's right.

Q. Is that true?

A. Depends on the brand of oximeter, but in general 60 percent is the cutoff. If you look at the reports, many reports stop at 60.

So if it went down to 30, some machines will give you a printout, some won't. But once it's severe, it doesn't matter just how severe, so it just draws a line at 60.

Q. Ask you about a note you've written here page 54 of Dr. Rowane's deposition.

A. Rowane says "I am not a sleep specialist. If there is a patient where there is a suggestion of possible sleep apnea, I utilize a specialist in that area to assist me."

And in this particular case he didn't use the specialist, he used a lab and I'm drawing a distinction between seeing a specialist to discuss the situation versus

ordering a test and having a test interpreted for you. This is-- there *is* a distinction.

Q. Do you know who he was talking about when he's talking about a specialist?

A. No. I know that in this particular case he referred to that lab. So, I'm only using it in the context of this case. He may have used different specialists for different things than sleep but he says "I utilize a specialist in that area to assist me."

Q. Do you know when he got the reports in this case, if he made-- attempted to make contact with Dr. Collins, who is a neurologist; correct?

A. That's correct.

Q. Would that be a reasonable specialist for him to consult when he received the results of the study?

A. It depends what's available to him. If people who are specifically sleep experts are available to him, then he should have gotten a sleep expert in the community.

If there is nobody Board certified in sleep apnea, the neurologist holds himself out to be the local sleep expert. Here it doesn't say which specialist he's looking for but in the sentence it looks like he's referring to the sleep specialist.

Q. Let me ask you this: Assume-- do you know if there was a Board certified sleep specialist available to him?

A. Dr. Brooks is Board certified in sleep medicine.

Q. Was he at the time?

A. He should have been if he's working in the laboratory, this laboratory at University Hospitals is accredited by the ASDA and to be accredited by the ASDA, you have to have Board certified sleep experts doing the work.

Q. But neurologists can and do address the results of these studies?

A. If they're trained how to do so. Some are not trained how to do so. They may be.

Q. Do you know what the situation was in this case as to whether Dr. Collins was trained?

A. I don't know. I believe in his deposition he mentioned that he was not specially trained. My point here is that he could have sent the patient to see the specialist, instead he sent them for the test. That's the difference.

Q. Who should he have sent them to?

A. To a consultation, whoever runs the sleep lab and ask the people there to see the patient, not just see the tracings.

Q. Doctor, were you provided any summaries of these' depositions?

MS. TOSTI: I will volunteer that he was and that I have removed them from his file as attorney work product.

BY MR. TREU:

Q. Did you review them?

A. I looked through them but mostly was reading this. They were kind of hard to read.

Q. Did you read them?

A. I looked through them, I didn't read them page by page. I was reading this.

Q. Were you provided with anything else?

A. Her sleep studies.

Q. Okay.

A. And I got a photograph of the patient and I don't know where it is right now. I was trying to find it. Must be caught between the pages of something.

Q. Anything else?

A. No, I think that's it.

Q. Any reports from any of the other experts in this case?

A. That's right. I have seen the reports of the other experts.

Q. Where are those?

A. I believe they were removed from the file.

Q. Why is that?

A. Were they? I'm not sure.

MS. TOSTI: I didn't see the expert reports there

THE WITNESS: Whatever I have is this then.

MS. TOSTI: He was provided with the defense expert reports and --

THE WITNESS: They must have been with all the correspondence that was removed

BY MR. TREU:

Q. Can you get those for me?

A. She probably has them.

Q. While she's looking for that Doctor, how much time have you spent reviewing this case?

A. I'm not exactly sure. I guess '97 was went I first heard about this case, so I have not tabulated it yet. I guess maybe 20 hours. Maybe. I'm just guessing. I'm not really sure.

Q. And you say you first got involved in this case in 1997?

A. I believe that's when it was.

Q. Do you know how Ms. Tosti got your name?

A. Actually I don't.

Q. You have no idea?

A. I asked her. She said they were looking for Stanford people, somebody at Stanford but not me particularly, I don't know why.

Q. She wanted a vacation out here or what?

A. I don't know why.

MS. TOSTI: Why is that?

MR. TREU: I was wondering whether you wanted a vacation out here.

MS. TOSTI: I don't have any copies of the expert reports, so I don't know where else you'd have them Doctor.

THE WITNESS: Then I thought they were with whatever correspondence I had from you.

MS. TOSTI: No.

THE WITNESS: Which reports are those then?

MS. TOSTI: The defense experts.

BY MR. TREU:

Q. Dr. Hobbins, Dr. Cully, Dr. Feinsilver, Dr.-- can't think of any others right now.

A. If I saw them, I'm not sure where they are; but I didn't write them up or anything.

Q. Do you have any reports of the any of the other Plaintiff's experts?

A. Those I had also. Yes, I got those too but later. I got those later.

Q. And you don't know where those are?

A. I thought they were together. I'm kind of embarrassed.

Q. Did you make any markings on any of the reports?

A. No, not on those, sir.

Q. Are there any other documents that you had that have been removed from your file?

A. No.

Q. Aside from correspondence from Ms. Tosti's office, that's been removed from your file?

A. That's right.

Q. Were there any summaries or case information included in those letters to you?

A. No, I don't believe so.

Q. Is there anything in those letters that you relied upon in reaching your opinions in this case?

A. No. Just chart mainly.

Q. All right. Are you listed with any expert witnesses services?

A. No, I'm not.

Q. The report letter that's been provided to me of December 12, 1997 under your signature; is that the one and only report you've prepared in this case?

A. That's right.

Q. There are no drafts?

A. No.

Q. Is that report accurate and complete?

A. Yes.

Q. Are there texts and journals in the area of sleep medicine?

A. Are there texts or journals, sure.

Q. What are some of the leading texts and journals?

A. Text in sleep medicine, there's "Principles and Practice of Sleep Medicine."

Q. Who is the editor?

A. Editor is Krayger Rothdem, ENT. That's the main book.

Q. Journals is the Journal of Sleep, single word "Sleep." And are those good reliable sources for you to turn to when you have questions in your specialty?

A. Right. We would use those, we use those for training. I read from different sources.

Q. You've reviewed the actual sleep study itself?

A. That's right.

Q. Would you agree with me that that sleep study actually shows moderately severe sleep apnea as opposed to severe sleep apnea?

A. That's kind of a hair splitting term. Depends on how you define moderately severe. I would call it just severe.

Q. How do you differentiate between these studies?

A. There are different ways of doing it. 1 generally use the oxygen as a ball park of severity; so anybody with. oxygen below 75 I consider severe. Seventy five percent I consider severe.

Somebody between 85 and 75 I consider moderate.

Q. When you say oxygen?

A. Oxygen saturation.

Q. Oxygen saturation. Is that at a point in time or is that --

A. The nadir of the night. The low point.

Q. So any time a patient has a single episode of oxygen saturation below-- what did you say, 75 percent?

A. Yes.

Q. That you determine to be a severe sleep apnea?

A. We use the entire study to determine severity. But if I had to look at one number to bell park it, I would use that number because there's never just one breath to hit that lumber.

They could have also hit 80 at some point but more importantly or very importantly I should say is the iespiratory Disorder Index and when that's above 40 we consider that severe also.

Q. I kind of interrupted you in your answer when you were talking about how you categorize, you said 75 percent was 75 percent oxygen saturation. Below that is severe?

A. I consider that severe. But again there is no hard rules about this by just one single number. It's the overall thing and anybody above 85 who is an adult I would consider mild.

Q. All right.

A. But you really have to look at all the numbers to

give a good description of it.

Q. All right. What numbers in this patient's study lead you to conclude that it is a, that she had a severe sleep apnea?

A. The Respiratory Disturbance Index.

Q. Which was that of what?

A. You have the actual number, it was over 40, 46 or here it is 45.6 and the low oxygen saturation of 60 percent,

Q. How often do you see sleep studies of this severity in your lab?

A. Routinely see severe sleep apnea. I can't give an exact percent. We see bad sleep apnea all the time.

Q. Do you see this severe sleep apnea on a daily basis?

A. Not daily. But frequently. I mean --

Q. Weekly?

A. At least once a week somebody comes in that's bad, There is at least ten different people seeing patients here; so I might see one, somebody else might see another but I see severe apnea all the time.

Q. Would you agree with me that occasional premature ventricular beats are not unusual in a sleep study?

A. They're not unusual in a sleep study, no.

Q. And can we agree that generally those premature ventricular beats are not life threatening?

A. In isolation they're not. It depends the company that they keep.

Q. What would make them life threatening?

A. Somebody with heart disease or low oxygen, the isolated beats, ventricular beats you're talking about: could lead to other arrhythmias. Think of them as sparks.

Q. Have you found in your practice that there is often substantial delay in primary care doctors, internal medicine doctors in considering the diagnosis of obstructive sleep apnea?

A. It's hard to say but that's the general thought in the sleep community is that sleep disorders are unrecognized. That's the general sense we have.

Q. You would expect that?

A. That is a changing thing. I mean the American Medical Association I believe has a statement at some point but I couldn't track it down for you, that recommended as the house of delegates passed a resolution, that all physicians should be aware of sleep disorders. So that was a few years ago they passed that resolution.

So it's changing.

Q. I saw in looking through Dr. Rowane's deposition and in some of the records, that he was looking at a potential psychiatric cause for a number of the patient's complaints including sleep problems; true?

A. That's correct.

Q. And that's something that you do not see infrequently from the doctors, family doctors, internal medicine doctors out the general population?

A. That doctors mistake sleep disorders for psychiatric problems?

Q. True.

A. It occurs. It happens and I don't know if it's frequent or not, but it happens.

Q. Can we agree that the diagnosis and treatment of obstructive sleep apnea is not generally considered an emergency?

A. No, I wouldn't agree. That depends on the situation.

Q. All right. Would you agree with me that in most communities a waiting period of several weeks to obtain an overnight sleep study is typical?

A. I would agree.

Q. How long does it generally take for you to produce a final report from a sleep study?

A. That's been changing. Currently I think it's two weeks at our lab. In the past --

Q. Let's talk about '95 about the time this was going on.

A. It could take four weeks, it could take-- I mean is

.t possible for it taking two months which is what happened
here? It's possible but that's not typical what we do.

Q. All right.

A. More now two weeks.

MS. TOSTI: You're referring to the written report when that's generated?

MR. TREU: Sure.

THE WITNESS: Just to clarify, we do send out a preliminary report. When they had that two month wait, we would send out a preliminary report saying what to do with the plan outlined and that would go out the next day

BY MR. TREU:

Q. All right. Is it your opinion that in '95, the standard of care required Dr. Brooks to send out a plan in the preliminary report that he sent out?

A. Yes.

Q. And what should that plan include to meet the accepted standard of care?

A. The treatment for the patient, treatment recommendation should have been-- I believe even before he sent it, should have been initiated that night; the same night he had the sleep study, specifically knowing that he had a long wait for patients to be seen at that lab.

If there is a two month wait, you don't want to wait two months to diagnose and wait another two months to

treat because treatment requires another sleep study or they should have started treatment that night and that's the standard.

Q. When these sleep studies are performed in-house, are they monitored by a human being?

A. That's correct.

Q. So it's your testimony that the standard of care required whoever was monitoring this sleep study to have initiated CPAP that night when the study was proceeding?

A. That's what I would have expected to be done. That is the standard. The lab, the facility system has to have in place protocols for what happens when somebody has severe apnea that's is being witnessed by the attendant technologist.

Q. Is it usually technologists who monitor these studies?

A. That's correct and they're given instruction on what to do when they see certain patterns emerge.

Q. Would you agree with the statement that most patients with obstructive sleep apnea have had symptoms for approximately five years before they are diagnosed or treated?

A. I don't know. I don't think anybody has a set answer on that. Some patients come soon. Depends if you have a bed partner or not. With a partner, when you first

snore, you come in right away. If you don't have a bed partner, it could take a long time.

Just curious where you got a number of five years.

Q. In the literature. Have you seen that in the Literature?

A. You see different things said at different times. So it's hard to pinpoint because it's hard to know precisely when something began symptom wise.

Q. Maybe I should ask the question a little differently and that is it's not unusual for patients to take five years to be --

A. Diagnosed?

Q. Diagnosed and treated?

A. It's not unusual. And treated, diagnosed right. My issue is the lag between diagnosis and treatment.

Q. All right.

A. Once you're diagnosed, there's no excuse to wait for treatment.

Q. Would you agree with the statement that fewer than ten percent of all patients with sleep apnea are currently being treated for that disease?

A, That's the estimates.

Q. Do you agree with that from what you've read in the literature?

A. That's the data that's out there.

Q. Would you agree with the statement that the contribution of obstructive sleep apnea to mortality is a controversial subject?

A. No, I disagree.

Q. And why?

A. I think there is epidemiological data showing that people with sleep apnea die faster of shortened life span. There is no controversy in that area.

The actual mechanisms can be argued but the fact that there is association between death and sleep apnea is irrefutable.

MS. TOSTI: We've been going at this for about an hour and a half, Doctor. If you'd like a break or drink of dater

THE WITNESS: Get some water but I'm okay.

MR. TREU: Sure.

(Whereupon, a brief recess was taken.)

BY MR. TREU:

Q. Doctor, what are the signs and symptoms of obstructive sleep apnea?

A. Symptoms are what the patient complains to you about, what the patient describes as excessive sleepiness, fatigue. More commonly heart burn may be a symptom, not having refreshing sleep, snoring, trouble losing weight can be a symptom of sleep apnea.

Personal changes, particularly depression are symptoms of sleep apnea. In men, impotence. Signs of sleep apnea is what you physically see in the person and that would be somebody may be over weight, large neck; that's the classic.

But in women it's not necessarily true. What you want to see is the throat. Is their tongue wider than the pallet. They tend to have small jaws, crowding of the lower teeth, wisdom teeth have typically been removed. You have redundant soft tissue in the back of the throat, long uvula, boggy soft tissue back there.

You may find there's elevated hematocrits, not uncommon to get arrhythmias. Hypertension is not going to be an independent risk factor -- excuse me. Sleep apnea is not going to be an independent risk factor independent of obesity. That's mostly it.

Q. Why would sleep apnea be a cause of hypertension?

A. It's a risk. And it's not well understood; however, the thought is if you have been constantly choked during the night, you're getting surges of hematocrit activity, your blood pressure shoots up, and you're being choked and then it slams down. This creates some instability that eventually ends up in daytime blood pressure elevations.

Because you're being shocked, your blood pressure shoots up. That's a sleep apnea, is you're being choked and

1 .f you're being choked hundreds of times per night, night
2 ıfter night, somehow it alters the mechanism that causes
3 ıypertension. We don't know why it does it but it's a risk.
4 Q. How many of these signs and symptoms did the
5 ɔatient in this case have?
6 A. She had fatigue, poor sleep, she had obesity, she
7 snored, she had the hypertension, borderline hypertension.
8 And seemed to have been getting worse gradually. And she had
9 :he heart burn.
10 Q. Well, did you see that the heart burn was
11 investigated?
12 A. They looked into it, yeah.
13 Q. And they found she had a healed Wadden ulcer?
14 A. But the sleep-- but the heart burn is still a
15 factor in sleep apnea.
16 Q. So I mean can you say as you sit here that the
17 heart burn in this case was --
18 A. All you asked me, what are the symptoms and signs
19 of sleep apnea that she had. And she had heart burn. That's
20 a symptom of sleep apnea.
21 Not everybody with sleep apnea has heart burn and
22 not all heart burn is from sleep apnea, but on the list of
23 things you can have with sleep apnea, that's one of them.
24 Q. So the fact is that most people that have heart
25 burn don't have it because of sleep apnea?

A. I don't know that because I'm not a gastroenterologist, but it's a common routine question. If you look at her questionnaire, something that's there to be checked off is "Do you have heart burn?"

Q. My question is most people who are suffering from heart burn are not suffering from heart burn because of sleep apnea?

A. I don't know.

Q. You don't know?

A. I don't know that to be a fact.

Q. But you can tell if they have heart burn --

A. I forgot an important symptom. Getting up nightly to urinate.

Q. What is that?

A. Getting up at night to urinate; nocturia. A common symptom of sleep apnea.

Q. Was that present in this case?

A. Don't know if she had nocturia or not.

Q. You state in your report that she had two seizure like episodes associated with sleep in August and October of '95.

A. That's correct.

Q. Then you go on to say these episodes were suspicious for sleep apnea. Why were these episodes suspicious for sleep apnea?

A. We know that people with seizure disorders, if you have seizures for whatever reasons; you're born with tendency towards sleep disorders which is your condition, you just have a tendency towards seizures that sleep can exacerbate that.

Exactly why, we don't know, but if you have uncontrolled seizures at night and you see the sleep -- the seizure improve, that's a known thing. Now, at the time of the statement we're not really sure whether these were seizures or not.

They are events that were not witnessed by any medical person and in sleep apnea, you can have what's called cerebrcl anoxic attacks which can mimic a seizure. The behavior is shuttering of the body, body jerks and unresponsiveness because again you're low on oxygen. Kind of like fainting a little bit where you can have a few jerks when you faint.

It's something to think about.

Q. You said that if the sleep apnea is treated, the seizures resolve at times?

A. Many times they resolve, yes.

Q. Is it also true that if the seizures are treated with Dilantin for example --

A. I mentioned intractable seizures-- sorry to interrupt. Go ahead.

Q. Is it also true that if the seizures are treated medically, they often times do not come back, they revolve?

A. It depends on the type of seizure. There are a lot of different types of seizure patterns.

Q. Let's talk about this patient. She did receive Dilantin after these episodes?

A. That's right.

Q. She did not have subsequent episodes?

A, True.

Q. Do you believe that these were real seizures that she had?

A. I'm not sure. I'm just not sure.

Q. In any event, when she was treated with the Dilantin she did not have subsequent seizures?

A. I'm not sure about that either.

MS. TOSTI: What, are you indicating at the time of her death? That was subsequent to her treatment. Are you ruling that out as --

MR. TREU: I'm not talking about the episode of her death. I'm talking about --

THE WITNESS: I wasn't sure. She might have had'a seizure that night that she died maybe.

BY MR. TREU:

Q. All right.

A. I'm not sure. I think that's unknown.

Q. All right. There is no way to know that?

A. Whether she had a seizure the night she died?

Q. Right.

A. That's right. There are some signs that they could have looked for in the autopsy. Did she bite her tongue for example. But --

Q. None of that was noted?

A. None of that was noted. So that's uncertain.

Q. What percentage of patients if you know suffer from arrhythmias or hypoxic seizures related to severe sleep apnea?

A. I don't know the actual percent. Arrhythmias are commonly seen on the tracing of severely apneic patients but I can't'quote you a percent; but it's a common thing to see the arrhythmias.

Q. Are the arrhythmias related temporally to the low oxygen saturation in these studies?

A. Typically. Not necessarily, but typically. Because a sleep apnea is not just a low oxygen problem; it's also a question of being shocked and having sudden surge and arousal.

So, you're going from-- if you think about your automatic nervous system, going from a sleepy state to a sudden jolt awake. But your body wants to sleep more, so you go back to sleep and it gets jolted again.

The instability factor, not just the oxygen, but also the instability of frequently being aroused plays a factor in this.

Q. You say at the bottom of the first page of your report that nocturnal hypoxia and sleep fragmentation can exacerbate nocturnal seizures by lowering the seizure threshold.

What do you mean by lowering the seizure threshold?

A. It's a hypothetical concept that you have to cross some certain barrier. The brain doesn't want to have seizures, so you have isolated abnormal discharges in the brain but they don't spread.

Something makes them spread, so it's a threshold at which the abnormal discharges in the brain will spread and that's considered the threshold. And having low blood oxygen is one of the things that would lower that threshold.

Q. And is that documented somewhere? I mean is that in the literature some place?

A. Sure. Well, there is a literature on sleep and seizures and there is literature on nocturnal seizures and you being read about that.

And again, nobody knows exactly what causes these things but that's the thought, that that's the low oxygen we think that's important to the brain.

Q. You go on to say "In Patricia Smith's case it's

highly likely the two seizures like episodes she experienced associated with sleep several months before her death were precipitated by obstructive sleep apnea"?

A. That was my impression.

Q. And on what do you base that opinion?

A. She had obstructive sleep apnea syndrome looks like for a long time. Just from the complaints looking at the chart; fatigue, the weight gain, the blood pressure going up.

And she didn't have any real reason to have a seizure that we know of. She didn't have any tumors, nothing was wrong with her brain on the autopsy.

So it's probably a metabolic cause, not a structural cause for her seizures and the main metabolic process that she's having in her sleep is obstructive apnea.

So, if you have to find a trigger, that's the most likely trigger to focus on.

Q. And when you say a metabolic cause?

A. They break up seizures into different etiologies, structural versus metabolic. An example is a brain tumor. If this is your brain, if you have a tumor, that's considered a structural lesion.

If you're low on sugar, that's a metabolic reason. If you're low on oxygen, that's viewed as metabolic.

Q. So it's your opinion in this case that the cause of these seizures was the lowering of the blood oxygen as a

result of the obstructive sleep apnea which lowered the seizure threshold?

A. Because I mean it's contributed association is what I said. It's hard to say because not everybody with sleep apnea has seizures.

Q. All right. Doctor, what I want to find out right now is who and why-- say who failed to meet the accepted standard *of* care in this case in your opinion and why?

A. My sense *of* reading the record, it's an overall system problem. If I use baseball as an example and there's a pop up and three in fielders are staring at it and it falls between them; all three of them are trying to get the ball; but all the different parties contributed to it, so it's a system issue.

Specifically once Dr.-- why didn't the sleep lab start CPAP that same night? Was protocol set up for this with severe sleep apnea patients? If there was, why wasn't it followed? If they don't have a protocol, why don't they have this, a protocol if they have a long wait to get into the lab.

Once Dr. Brooks observed the patient's severe sleep apnea preliminary report, once Dr. Brooks saw that there was severe sleep apnea present, why didn't they start treatment right away? Why didn't the patient get a phone call "Come back to the lab, come in for an office visit"? Why wasn't

that done?

When Dr. Brooks communicated this to Dr. Rowane, he sent a report over for severe sleep apnea, it kind of sat somewhere before anybody acted on it. If Rowane is away, why isn't somebody checking his reports? Why aren't severe conditions-- you know why isn't a severe condition flagged to be followed sooner?

When Rowane looked at it, why did the patient go back to Rowane to discuss the results in the first place? The patient had, looks like the requisition or the referral I should say was for sleep study plus other office visits; if you look at it. I think it authorized three visits.

They did the sleep study. What happened to those other visits? Why weren't they scheduled? That is more a system issue again. Was Dr. Brooks aware that the patient was authorized for more or requested to have more visits?

If he knew, why didn't he do something about it? If he didn't know, why didn't he know? Dr. Rowane seems to think Dr. Collins is going to get him the sleep study. Why does he think that? Dr. Collins is saying he doesn't know about the sleep apnea. Doesn't know how to manage sleep apnea.

This lady had a severe disease, Once it was known to be identified, was she ever told about the implication of it? Did anybody ever tell her how to start treating it?

So that's where the standard falls apart. After diagnosis is made, looked like nobody took responsibility.

Q. Just so I'm clear and I have a handle on what you're going to testify to in this case; you're not going to say that the delay in getting the study done was a failure to meet accepted standard of care; that's outside your area of expertise?

A. I mean-- can you please restate that.

Q. You're not going to say that the delay in getting the study done was a failure to meet accepted standards of care. Your concerns are from the time the study was done forward?

A. My greatest concerns are from the time the study was done forward; that's when it's horrible. Before then, they could have done it sooner, and if they had even-- I think the standard is to do it sooner.

I think it took them three months between the time the requisition was put in between the time the patient shows up to the lab. That's the average, that's more than expected; but I'm not going to say it's below the standard.

Q. All right. So from the time that the procedure was done, you start first on the date of the study itself, that what was showing on the monitor should have led the tech or whoever was there to initiate CPAP or there should be policies in place for what the tech should do under those

circumstances; correct?

A. That's correct. Specifically to call the doctor. Because there is a physician on duty responsible for every patient that night. "I got a lady here who is doing this, what should I do?"

Q. All right. And then you had a concern again getting back to the time of the actual study itself, that the requisition for the study, you believe also included what did you say, three-- authorization for three or four visits?

MS. TOSTI: Why don't you --

THE WITNESS: You will probably see it faster than I will. Do you want do see it?

BY MR. TREU:

Q. Sure. What were you referring to?

A. Number of visits. Three. This is a referral.

Q. All right. And your sense from that was that there was an expectation there was going to be follow-up from the study by --

A. Either an initial evaluation prior to the study or follow-up after that. But it was not going to be a single sleeping overnight study and then good-bye.

Q. All right. Aside from that, did you see anything in the records indicating that the expectation was that Dr. Brooks or someone else in the sleep lab was going to provide follow-up and care plan?

A. That Dr. Brooks?

Q. Yes.

A. I don't think Brooks was ever identified as the one-- they were using the lab, the clinic. So I think they were actually looking for Rosenburg as the person they were trying to contact.

So looks like my sense from Rowane's notes is that the sequence of events is Collins is told there may be a sleep problem. So, Collins says tell the primary care doctor. Primary care doctor says there is a sleep problem. He refers the patient to the sleep lab.

And my sense in reading Rowane's deposition is he thought they were going to help him with this case and this is something that Collins had suggested to be done. So Rowane seemed to think that Collins thought this was the important thing to do.

Q. All right.

A. So, it seems that they were all kind of deferring and then the sleep lab was saying no, we'll do the study, you guys tell us how you want to manage it.

Q. When you say the report sat when it was provided to Dr. Rowane, which report are you talking about?

A. When the final report got sent out to Dr. Rowane, my sense was that it had arrived at the clinic but it had been some time later before he actually reviewed it, saw

those results.

Q. Well, in any event he saw those results prior to the time he saw the patient?

A. Actually on the same day-- I'm not sure if it was prior to or same day. It was March 25 that she had that office visit.

Q. He had the results when he saw the patient, true?

A. We don't know when he saw them if he saw them beforehand. He said "She's here to review the results."

Q. And he went ahead and attempted to contact Dr. Collins; correct?

A. That's right. But did he discuss the results with the patient, I couldn't tell from looking at his notes.

Q. Could you tell from his deposition-- it was a long deposition?

A. Yeah. I think he said he did but the family said he didn't. It was kind of--

Q. All right.

A. Didn't get conveyed.

Q. I guess what I'm getting at is you said you had a problem with the fact the report sat; but I guess my question is, is that either here nor there given the fact he had it when he saw the patient and attempted to initiate follow-up?

A. Once we see the severe sleep apnea, once it's physically seen by the physician, what's expected is the

physician is going to act on it; not send out a preliminary letter saying don't do anything yet.

Which is what the preliminary letter said.

Q. You think that was wrong?

A. I think that was very wrong.

Q. For Dr. Brooks' letter to say don't do anything yet?

A. Yes.

Q. Is that another area you think was breached of the accepted standard of care?

A. I believe so. Should have mentioned that, excuse me. Specifically it was a severe finding, it's not like it's mild, let us ponder it. It's severe.

Q. Any other area where you feel there was a breach of the accepted standard of care?

A. I can't recall right now. If you have a specific point, I'll address it.

Q. I can only ask you.

A. I think I've hit the essential issues,

Q. I apologize if I have asked you this before, I may have some time ago. Do you have an opinion to a degree of probability as to what the cause of death was?

A. I believe she died -- yes. It was combination of known, she was known to have heart disease in conjunction with obstructive sleep apnea syndrome.

Q. And this led to some type of terminal event?

A. Probably sudden death, probably an arrythmia.

Q. How effective is CPAP?

A. It's highly effective for sleep apnea, very effective; saves lives.

Q. Is it unsuccessful in some cases?

A. Some cases, it's unsuccessful. It is successful if you use it. It's like asking is insulin successful in treating diabetes? It is if you use your insulin. It's not successful if you don't use it.

It's not-- if you don't use your CPAP, it's not successful.

Q. It requires patient's compliance?

A. Compliance is the issue.

Q. If patients are compliant, is it 100 percent effective?

A. If patients are compliant and it's properly applied, it's hundred percent effective. In general, all CPAP including BPAP which is a byproduct of it.

Q. You're unaware of any circumstances where a patient has had CPAP in effect and they have died from suspected sleep apnea?

A. If the CPAP is not used correctly it could cause a problem; if the pressure is set too low for example. If it is set correctly, it should not be an issue.

But if the CPAP is not used correctly or if the patient does something, for example the pressure is a set pressure that is needed to keep your throat open. So you prescribe a pressure and the patient goes on and takes a bunch of barbiturates or morphine or something to relax the muscles more; they would require more pressure, the machine would not respond.

But if everything is constant, CPAP should work.

Q. Given everything you've read on this patient, do you have an opinion as to what her life expectancy would have been had she been treated with CPAP as you suggest?

A. If the sleep apnea had been treated, it could have been treated with CPAP or tracheostomy. Whatever treatment, because none was offered.

If she'd been treated appropriately, she would have had a normal life span.

Q. For someone of her --

A. With sleep apnea.

Q. All right. Just so I'm clear on that, a normal life expectancy all other things being considered? In other words, you'd agree she was morbidly obese?

A. She was obese, and she had high blood pressure and she had heart disease. So those are the separate issues. But sleep apnea when it's treated and sleep apnea can in fact be cured with either CPAP, tracheostomy or some other

surgery. Treated or cured.

So it's-- there is no reason why the sleep apnea should shorten her life if it's treated appropriately.

Q. The other case in which you testified as an expert, was that for a Plaintiff or Defendant?

A. I have not testified. I gave a deposition. Is that different?

Q. Yes, this is testimony.

A. Thank you. That deposition was for the Plaintiff.

Q. All right. Have you reviewed cases as an expert where you have not given deposition testimony?

A. Yes, I have.

Q. Why don't you tell me what your experience has been .in reviewing medical legal cases.

MS. TOSTI: Let me just add something here. He has done a couple cases that were unrelated to medical malpractice, so you might want to refine your question so be doesn't get confused with what you're asking

THE WITNESS: Thank you.

MR. TREU: What do you mean by that?

THE WITNESS: I testified as, excuse me. I testified one in court in a child abuse case when I was working in the emergency room

BY MR. TREU:

Q. All right.

A. I'm sorry. I was thinking in my practice. And there was a criminal case where I served as a medical expert for the defense.

Q. And what area?

A. You mean geographically?

Q. No, what area of practice in the criminal case, Why were you testifying?

A. It was a teenager accused of attempted murder. It was a Public Defender case and I was asked to comment on the person's sleep.

Q. The Defendant's?

A. The Defendant's sleep. Yeah. About possible sleep problem being a factor.

Q. When was that?

A. That was recently and it was just this summer but I don't know the exact date; just recently this year.

Q. Was it here?

A. In San Jose. That matter is not completely resolved yet but it's been in the news.

Q. What about the child abuse case?

A. The child abuse case was maybe 1992, 1993. I was working in the emergency room as a physician and a child came in and they were saying the child had been raped by another man and I was the emergency room attending physician. I examined the boy, took the history and had to testify in

court about my findings and then the lawyers amongst themselves argued and made me an expert after argument themselves. But I initially went in as --

Q. Treating?

A. Treating physician and then during the course of testimony became an expert. And I have reviewed other cases; you had asked that before.

Q. Right.

A. And I've reviewed for both Plaintiff and Defendant cases.

Q. Can you give me some sense of how many times you've done that?

A. I think it's only been two cases I reviewed.

Q. In addition to this one?

A. Yeah. I think the two cases. One was a Florida case and I just received a letter from the attorney saying after I reviewed it that they had-- I was for the Defendant, it was a malpractice case.

That a-- what's the term they used, a favorable settlement had been reached on behalf of the client.

Q. So you never gave a deposition in that case?

A. No, not in that case.

Q. What was-- real nutshell, what was that case about?

A. It was case of a patient who had sleep apnea-- excuse me. Patient-- yeah, who was going to have surgery for

sleep apnea and that patient had some problems during the surgery and later died in their home.

And they were suing the anesthesiologist, saying he was responsible for that death and I defended the anesthesiologist.

Q. Do you know the name of the lawyer you worked with in that case?

A. Shad, S-h-a-d and it's in Florida.

Q. Do you know where in Florida?

A. No, I'm sorry.

Q. Don't know. What was the other case?

A. The other case was a little girl that had been discharged from her-- in northern California from Kaiser, she'd been discharged from Kaiser and was sent to a nursing home and she died the first night; one or two nights after she arrived in the nursing home.

Q. Why was she in a nursing home?

A. It's a chronic care facility. She was a very sick little girl and the question was did she need an acute care or chronic care. I shouldn't have used the term "nursing."

She was transferred to a chronic care facility and she died.

Q. Who were you testifying for?

A. For the family of the child.

Q. That was for the Plaintiff?

A. The Plaintiff in that case.

Q. And what was the, were the opinions you were offering in that case?

A. In that case it was that she was sick, she was sick at Kaiser and she was sent home, sent to the chronic care facility when she was still ill. They had not stabilized her illness.

Q. So, it wasn't really a sleep --

A. Not in that particular case, no. And there was --

Q. Where was that, what state was that case?

A. California. And then there is an ongoing case I'm involved in. I'm not supposed to discuss I guess.

Q. I think you-- you don't have to tell me the name of it or anything about that, but you can tell me what state it's in and if it's for the Plaintiff or the Defendant.

A. That one is for the Plaintiff. And that's in California. And that's a sleep apnea case, management of the sleep apnea.

Q. All right.

A. So there was some Plaintiff and at least one Defendant, one.

Q. All right. And the other deposition you gave, which case was that?

A. For the one that's ongoing currently.

Q. Doctor, have we discussed all of the opinions which

you intend to offer in this case?

A. I think we've broadly-- I think so for the most part. Just if something comes to mind.

Q. If something comes to mind, what I'd like you to do please is let Ms. Tosti know and she'll let me know so 1 can have the opportunity to inquire. I don't suspect I'd come back to California to do that, but perhaps over the telephone if need be. Is that acceptable?

A. That's fine with me.

MR. TREU: With that, I have nothing further.

MS. TOSTI: We will read, reserve signature for the Doctor.

(Whereupon, the deposition was concluded at 2:30 p.m.)

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STATE OF CALIFORNIA)
) SS
COUNTY OF SANTA CLARA)

I, the undersigned, say that I have read the foregoing deposition and hereby declare under penalty of perjury the foregoing is true and correct.

Executed this_____day of _____1999 at_____California.

_____
Rafael Pelayo, M.D.

REPORTER'S CERTIFICATE

I, Barbara H. Gonzalez, CSR No. 4646, Certified Shorthand Reporter, certify;

That the foregoing proceedings were taken before me at the time and place therein set forth, at which time the witness was put under oath by me;

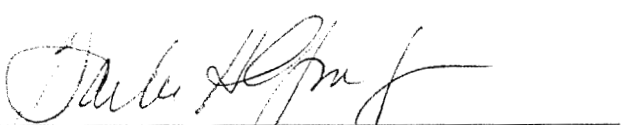
That the testimony of the witness, the questions propounded and all objections and statements made at the time of examination were recorded stenographically by me and were thereafter transcribed;

That the foregoing is a true and correct transcript of my shorthand notes so taken.

I further certify that I am not a relative or employee of any attorney of the parties nor financially interested in the action.

I declare under penalty of perjury under the laws of California that the foregoing is true and correct.

Dated this 29th day of October, 1999.



BARBARA H. GONZALEZ, C.S.R. 4646