A It's an anesthetic drug. Specifically it's a hypnotic, it makes person go under general anesthesia.

Q Fall asleep?

A Yes.

Q Okay. So -- and is it something you've used in the past?

A Yes.

Q Are you very familiar with it?

A Yes.

Q And when you said short acting, how -- what are we talking about?

A It is a short acting medicine. The body metabolize and gets rid of it very rapidly, so patients can wake up very quickly afterwards.

Q Is it appropriate to use in -- in a -- like an outpatient surgical center for limited procedures?

A Yes.

Q The action -- I mean how quickly does it -- does it start to work?

A It starts work immediately, I would say within 10 seconds.

Q How -- and when you want to stop, wake somebody up, I mean is there a big time lag or is it -- is it also equally quick?

A It depends on how much has been given to the

patient when you want to wake the patient up.

Q So are there a difference between the use of that drug and -- in longer procedures than shorter procedures?

A In a long anesthetic procedure it is possible to use propofol but you have to give it continuously through a intravenous infusion.

Q If you're just going to do it like we described for let's say, for example, and you're going to -- you're -- you know what we're here for right? It's about the things that happened at the endoscopy center, correct?

A Yes.

Q So in an endoscopy -- endoscopic procedure like a coloroscopy or an EGD, an upper endoscopy, things like that, would it appropriate to use for the entirety of the procedure in those cases?

A Yes.

Q Are they short enough in duration that that wouldn't be an issue with this hanging a drip and -- or a continuous infusion?

A The procedures are usually so short you can just give intermittent boluses.

Q Have you done those procedures before?

A Yes.

Q In your experience doing those procedures, about what is the average amount of -- of drug that you would give

for one?

A For EGD, the upper GI tract endoscopy, I probably would give between five to 10 ml, which is 50 to 100 milligrams of propofol. For the lower procedure, the colonoscopy, I would probably give between 10 ml to 20 ml and that's 100 milligram to 200 milligrams.

Q And these kinds of procedures last typically how long for that kind of anesthetic?

A The EGD, the upper endoscopy procedures usually last between -- between five to -- to 10 minutes and the lower -- the colonoscopy will last between probably eight to 20 minutes.

Q Okay. So that amount of drug for that amount of time?

A Yes.

Q If the procedures went longer than that would typically you'd have to use more drug?

A Yes.

Q Now, I'm going to bring you forward to -- do you know an individual by the name of Dipak Desai?

A Yes.

Q Do you see him in Court today?

A Yes.

Q Can you point to him, describe something that he's wearing for the record, please?

A He's sitting over there in the dark suit.

MR. STAUDAHER: Let the record reflect the identity of the defendant, Your Honor.

THE COURT: It will. It will. I'm sorry, I mumbled.

BY MR. STAUDAHER:

Q With regard to your involvement with this -- Dr. Desai, when did you first meet him and if you did, was it in a social or work-related situation?

A I'm not certain about a date, but I believe it was in -- in -- in the late 1990s when I first had a chance to meet Dr. Desai.

Q Did you ever work with him?

A Yes.

Q Did you ever provide anesthesia services for him?

A For his procedures, yes.

Q Were these -- or what was the location where you did this work?

A I believe I've done it at the Endoscopy Center at Valley Hospital and also I've done anesthesia for his patients at the Endoscopy Center at 700 Shadow Lane.

Q So the actual location of where things happened in this case?

A Yes.

Q So in the situation where you were actually in

the hospital, were -- were things different than the way you provided care or service in -- at 700 Shadow Lane?

A It's pretty similar, but the 700 Shadow Lane I'm referring to was the old endoscopy center. They -- they later moved the endoscopy center from one suite to another. I only worked in the old one.

Q Okay. And what -- what time frame are we talking about year wise in that regard?

A I would say between 1996 and the year 2001.

Q How often did you provide services for Dr. Desai during that window of time?

A Probably once every six months.

Q So those procedures, were they the same types of things we're talking about, the colonoscopies and -- and the upper endoscopies?

A Those would be the procedures requiring my service, yes.

Q Okay. When you worked with Dr. Desai, did you -- were there any supervisor -- or excuse me, were there any CRNAs working in the clinic at the same time?

A No.

Q Did you do any supervisoring -- or supervisory work for any person during the time you were working with Dr. Desai during that window of time?

A No.

Q After 2001 did you continue to work for Dr. Desai?

A As I recall I had -- I have not worked with him since 2001.

Q Now, in this particular case, was there a time period though at some point that after 2001 that you had discussions with Dr. Desai about maybe doing some supervisory work for him in relation to him hiring some CRNAs?

A Yes.

Q Can you tell us about that?

A There was a proposal for me to supervise CRNAs and that he would hire the CRNAs but I would be able to come in and supervise their work and bill for their service.

Q So let me understand that. You're going to bill for the supervise -- for supervising directly?

A Yes, that's the industry custom. The supervising M.D. anesthesiologist bill for the work done by the CRNAs being supervised.

Q So even though the CRNA's actually doing the work, because you're supervising you bill for that work?

A Yes. And I -- I will take the clinical responsibility for that work.

THE COURT: Do you bill at the physician's rate just as if you were the doctor doing the service?

THE WITNESS: No, there's a difference.

THE COURT: It's a different rate. Okay.

THE WITNESS: Yes.

BY MR. STAUDAHER:

Q And we'll get into that in just a minute but --

THE COURT: Sorry.

MR. STAUDAHER: No problem.

THE COURT: Jumped the gun.

BY MR. STAUDAHER:

Q But as far as that's concerned, this was -- was this just talk or did it get formalized into anything more than that?

A It was -- it was mostly just talk and later there was attempts to put it on paper, but still it was not very formal agreement or writing.

Q I'm going to ask you a question in the future from where you're at right now in 2001 or just past that and then I'm going to come back. Okay? But at any point ever did you ever go to the Shadow Lane camp -- or Shadow Lane Clinic, 700 Shadow Lane, whether it was the old one or the new one, and ever supervise any CRNAs?

A Never.

Q Did you know that anybody was representing at any point that you were a supervising physician for CRNAs?

A No.

MR. STAUDAHER: Your Honor, may I approach this

witness?

THE COURT: You may.

MR. STAUDAHER: And I've previously shown this to counsel, this is --

THE COURT: All right.

MR. STAUDAHER: -- the [indiscernible] exhibit.

BY MR. STAUDAHER:

Q I'm going to show you a document, which is labeled as State's 65 and on it there's kind of a blank. Do you recognize that page?

A Yes.

Q What is that?

A It's a blank anesthesia record.

Q Okay. And then it looks like there's another one that's a colored one and that's when the Bates number start. It's GJ Desai 474 and then there's two pages that follow that, 468 and 469. Do you see that?

A Yes.

Q Okay. Have you ever seen those last two pages before?

A Yes.

Q You've seen them both?

A Yes.

Q Now, when did you see these two documents?

A I saw them at the -- when I testify at a grand

jury.

Q Okay. Had you seen any of them before that point?

A I've seen this one before that.

Q And the one you're referring to is 468, you've seen that one.

A Yes.

Q What about the one that's depicted in 469?

A I don't recall seeing that one.

Q Okay.

MR. STAUDAHER: May I publish, Your Honor?

THE COURT: You may.

BY MR. STAUDAHER:

Q Before we get those to go -- those agreements, I want to make sure we're all talking about the same thing. This is the first page of the exhibit and you said that this was an anesthesia record; is that fair?

A Yes.

Q What are we looking at here? Can you kind of describe for us? There's a whole bunch of boxes but you can -- can you tell us what we're looking at and -- and you can draw on this screen with your fingernail. Just take your fingernail and do that and then you just tap it down here and it goes away --

A Okay.

Q -- if you need to do anything. Can you tell us what we're looking at?

MR. SANTACROCE: Your Honor, can we approach?

THE COURT: Sure.

(Off-record bench conference.)

BY MR. STAUDAHER:

Q So can you describe for us -- first of all, is this a fairly standard form?

A Yes.

MR. SANTACROCE: Objection, Your Honor, relevance.

THE COURT: Okay, overruled.

BY MR. STAUDAHER:

Q Can you describe for us what -- what it is? I mean how -- what -- what the different parts are.

A Okay. This part is for us to record the vital signs, such as blood pressure and heart rate. And this part is for us to record the -- the vital signs that are more advanced, such as pulse oximetry, [indiscernible] carbon dioxide, oxygen flow. And this part is for us to record the medication used.

THE COURT: Is this kind of a standard universally used form?

THE WITNESS: Yes.

THE COURT: Okay.

BY MR. STAUDAHER:

Q And go ahead.

A And this part is to record what kind of an airway device, airway management we used, whether we put a tube in the patient's trachea or just something in the oropharynx to -- to maintain the airway. And this part is to document the monitors used and the -- the invasive monitoring device we used. This part here, anesthesiologist, is the actual anesthesiologist. This part anesthesiologist is the actual anesthesiologist present doing the procedure and is responsible for the procedure. This part is the -- the surgical procedure operation. This part is the surgeon, the actual person that does the procedure. And this is the patient information with -- there's usually a sticker or a embossed print to put down the patient's name and other information. And this here's to -- for us to put down remarks, any important things we want to record regarding the procedure.

Q What about this area right here?

A This is the time, the anesthesia time. There's a beginning time and a -- a finish time.

Q Okay. And you had mentioned that if you were coming out to the clinic to do supervisory work for -- I mean supervising a CRNA, that you would come out there and then you would eventually bill for their services, correct?

A Yes.

MR. SANTACROCE: Objection, foundation.

THE COURT: Overruled.

BY MR. STAUDAHER:

Q So how is it that you bill for your services with a -- with a CRNA, how would you do that?

A First of all, here in this square we would put down the CRNA's name and put a slash after his name or her name and put down my name.

Q So on an anesthesia record that you would have supervised for we would have seen both names down?

MR. WRIGHT: I'm going to object -- I'm going to --

A That's what I would do and that's the industry standard.

Q Okay.

MR. WRIGHT: I'm going to object to the hypothetical.

THE COURT: Well, it's not really being --

MR. WRIGHT: It didn't occur.

THE COURT: But I think that was the point of the question, so it's overruled. All right. And the court recorder, Mr. Wright, is asking that you speak up.

MR. WRIGHT: Okay.

THE COURT: All right. Go on, Mr. Staudaher.

BY MR. STAUDAHER:

Q So when you -- when you're billing for anesthesia services, I mean how do you determine that -- what

do you -- what is the basis of your bill?

A There's a standard codebook for different procedures. Different procedures would have different number of code and would have different number of units. The more complicated the procedure the more units the procedure will represent, so that's one part. Another part is the time, how much time was used to provide our anesthesia service.

MR. WRIGHT: I'm going to object. I thought this was a hypothetical if he had been hired to be a supervisor of the CRNAs --

MR. STAUDAHER: It goes to --

THE COURT: Overruled. Your objection is noted.

BY MR. STAUDAHER:

Q So if it -- if a C -- if you were supervising a CRNA, beside putting your name down next to the CRNA's, would you use the information, the time, as part of how you would bill for that service?

A Yes.

THE COURT: So you're billing at a different rate, again, if you're a supervisor than if you're actually performing the anesthesia itself?

THE WITNESS: Right. I believe the --

THE COURT: And the --

THE WITNESS: -- rate is different.

THE COURT: Okay. And the rates are different like

if it's a brain surgery it's probably going to be a higher rate then maybe another kind of surgery?

THE WITNESS: Yes.

THE COURT: Okay.

BY MR. STAUDAHER:

Q Is in part what -- the basis of that on what the Judge just asked you, because you get a base amount of times or units, so to speak, and then you just add time to that in units?

A Yes.

Q Okay. And what is the typical unit of anesthesia time?

A Fifteen minutes.

Q Okay. If you are billing anesthesia times -- so you start off with your base rate and whatever it is. Do you know what it is for a colonoscopy?

A I believe it's either five units or six units.

Q So let's say it's five. If you're at five units for the base, you start off with that as the number and then for how much time you're in the room you add units on to that?

A Yes.

Q The units are in 15-minute increments. Does that mean that if you get to 16 minutes you can bill for two increments?

A Some people do that, but I don't.

Q Okay. If you got to -- so just even a minute into the next segment though you could legitimately bill if you wanted to?

A Yes, some people would do that.

MR. WRIGHT: Judge, can we approach the bench?

THE COURT: Yeah.

(Off-record bench conference.)

BY MR. STAUDAHER:

Q Now, Doctor, I'm not going to ask you specifically about Certified Nurse Anesthetists, just your -- your involvement -- just your -- and your -- as a single anesthesiologist what you do, what you would -- what you think is right with regard to the things we're talking about. Okay?

A Okay.

MR. SANTACROCE: I'm going to object.

THE COURT: Well, let him -- let him ask the question so we know what it is.

BY MR. STAUDAHER:

Q First of all, do you as a -- as a doctor, if you were going to -- to an endoscopy center and you were going to bill for a colonoscopy, the ways we've been talking about, how would you bill it?

A I would bring a copy, Xerox copy of the anesthesia record and a copy of the patient's face sheet. That's a piece of paper with the patient's home address, phone

number, insurance information. We call that a face sheet. I will bring a copy of that along with a copy of the anesthesia record back to my office and give it to the billing service for them to the bill the insurance company.

Q Do you know --

MR. SANTACROCE: Your Honor, I'm going to object to move to strike the last answer.

THE COURT: Well, overruled for now. And then how does that work? Your billing person looks at it and sees how many -- how many minutes or whatever it took and then they bill according to that and what the procedure was and is there a code for --

THE WITNESS: Yes.

THE COURT: -- whatever the procedure was? So they look, oh, it was open heart surgery, this is the code and it was 17 minutes and then they bill according to that? Is that in a nutshell what happens?

THE WITNESS: Yes.

BY MR. STAUDAHER:

Q Again, your experience as far as -- do you know the codes for colonoscopies and upper endoscopies?

A I don't remember it.

Q Okay. But that's something that is how you base your bill off of, whatever the base unit is plus the time.

A Yes.

Q In doing the work that you do, do you ever, you know, if you've done a, let's say -- I mean how do you calculate it? Is it face time with the patient? Is it -- is it, you know, going in and talking to them -- talking to them before and coming back to the room? I mean, how do you determine what the time is that you spend with the patient?

A I don't charge for talking to the patient. I charge starting the anesthesia time as the time the patient comes into the procedure room.

Q And then what is it --

THE COURT: Do you know if that's the industry standard or if some people in the industry charge for, you know, that initial kind of preoperative consultation?

THE WITNESS: I -- I -- I believe there are people like that, yes.

THE COURT: Okay.

BY MR. STAUDAHER:

Q But do you know what the general industry standard is for that?

MR. WRIGHT: He just asked and answered.

MR. STAUDAHER: He said that there were people that did that, I didn't --

THE COURT: Well you can follow up.

MR. STAUDAHER: That's what I'm trying to do, Your Honor.

MR. WRIGHT: I want to voir dire him on being an expert on billing and the national standards.

MR. SANTACROCE: I join in that.

THE COURT: All right. Go ahead, Mr. Wright, if -- if we're going down that road.

MR. WRIGHT: What's your expertise on national billing standards and the studies that have been done on them for anesthesia time?

THE COURT: No one can hear you. And it was a compound question so --

MR. WRIGHT: Okay.

THE COURT: -- state it --

MR. WRIGHT: Did I hear an objection?

THE COURT: No, but I -- since you have to restate the question anyway.

MR. WRIGHT: Are you an expert on national billing standards for anesthesiology?

THE WITNESS: How do you define expert?

MR. WRIGHT: Someone who knows more than most people in that area and have you written about it?

THE WITNESS: No.

MR. WRIGHT: Published any articles?

THE WITNESS: No.

MR. WRIGHT: Read -- read studies about how nationally other CRNAs bill for their time?

THE WITNESS: No.

MR. WRIGHT: Okay. And you've never -- you've -- as I understand your testimony, you worked with some CRNAs when you were a resident in San Diego back before 1993, correct?

THE WITNESS: Yes.

MR. WRIGHT: And other than that, you supervised for four or five days in Los Angeles as a temp employee, correct?

THE WITNESS: Yes.

MR. WRIGHT: And other than that, no expertise with CNRAs and how they compute their time and billing practices, correct?

THE WITNESS: Correct.

MR. WRIGHT: I don't think he has --

THE COURT: All right. Mr. Staudaher, you may proceed.

BY MR. STAUDAHER:

Q And I told you I wasn't asking about CRNAs, correct? I'm asking about you.

A Yes.

Q And you know the local market, not necessarily the national market; is that correct?

A Yes.

Q Because you work here.

A Yes.

Q So locally here, what kind -- how do you

determine time? How -- how does -- how do generally the anesthesiologists that you work with in this community determine time?

THE COURT: All right. Are you objecting, Mr. Wright?

MR. WRIGHT: Yes.

THE COURT: Is that why -- I saw you get up. Ladies and gentlemen, it's 3:31. We're going to just take a quick recess until 3:45. During the relatively quick recess, you're reminded that you're not to discuss the case or anything relating to the case with each other or with anyone else. You're not to read, watch, listen to any reports of or commentaries on this case, any person or subject matter relating to the case by any medium of information. Please do not do any independent research. Please do not form or express an opinion on the case. Please place your notepads in your chairs and follow the bailiff through the rear door.

(Jury recessed at 3:30 p.m.)

THE COURT: Doctor, as I'm sure you're surmise -- you've surmised, we're going to be arguing about some of your testimony that's going to be coming up. So I just ask you, you know, you can take a break if you need to use the facilities or just have a seat in the vestibule. There's a little conference room off there to the side. Thank you, sir.

THE WITNESS: Okay.

THE COURT: All right. Does anyone have a copy of the State's expert disclosure for the doctor? Thank you. Approach. All right. Now obviously, he can testify as to anything he did or did not do at the endoscopy center. We're clear about that, I get it.

MR. SANTACROCE: Yes.

THE COURT: The point is his name was used and he didn't do anything, you're fine with that. He can say, I didn't do anything and if I had done something I would have been in the patient's room and I would have done my bill like this and this bill wasn't done like that, so obviously he wasn't involved. We're all fine on that. The issue is him testifying sort of as an expert regarding billing practices. Is that what you were trying to go with Dr. Yee?

MR. STAUDAHER: Well, I mean, not necessarily billing practices in general. I mean, what he -- what we've listed there for the things that he would testify about are everything that an anesthesiologist would do because we know and anticipated that there would be objections at some point if we did not disclose him in that capacity to anything he testified for other than what he directly was involved with in this case. So when he's dealing with what he normally does in his practice, how he would fill out one of those forms, how he would normally bill and what he bases the bill off of, are all things that are all relevant.

THE COURT: Okay, yeah. Here's what you say, procedure, standards of care, blah, blah, blah. You said anesthetic agents. Anesthesiologist supervision of Certified Registered Nurse Anesthetists. Okay? He testified about that. I'm assuming there's no more questions about that?

MR. STAUDAHER: Other than you didn't do it in this facility and --

THE COURT: Right. And that's not as an expert, that's as a percipient or a nonpercipient witness, if you will. I -- I didn't do it, I wasn't there. That's fine, that's not expert. Okay, then the next thing is proper use and documentation of anesthesia records. We already went through this. He said this is how he'd fill it out and this is what would have been there. So are we done with that?

MR. STAUDAHER: Well, in part. What that relates to is how you -- how you bill for your time.

THE COURT: Here's the problem. He's already said, I bill one way and some other people bill another way. So unless is this is the standard, then who cares how this guy bills. You need to show that this is how people -- that how the billing is supposed to be done or something like that, otherwise it's not relevant. So, you know, basically if you can lay a better foundation. So far he's kind of saying, well, this is what I do, I wouldn't bill at a -- basically what I heard is he doesn't bill at 15-minute increments. He

would bill I guess more real time, the 15 minutes plus whatever, although he never said that. But some people do bill at the 15-minute increments.

And then he said, well, he doesn't bill for that sort of preoperative time, you know, the getting to know you phase, but that other doctors may bill for that. So I mean -- you know, I mean I guess if you want to ask him all the different ways people can bill, that's fine. The problem is you haven't established that he's going to be testifying about an industry standard or practice or something like that because his unique practices, they're only relevant to the extent to show if they were billing for his time, they didn't follow his billing practices or something like that. If that's what you want to show --

MR. STAUDAHER: That's -- that's where I'm going.

THE COURT: -- then you need to make sure it is very clear that he is not talking as an expert about industry wide practices or practices in the, you know, Las Vegas community. You need to then say, okay, Doctor, you know, what -- what was your specific practice? Blah, blah, blah, blah. Okay, Doctor, if you had done work at the clinic would you have followed that practice? Yes, and then tie it in that was never done so obviously he didn't do the work. Now that's not him testifying as an expert. I'm fine with that.

But if you want him to testify globally as to how

billing is done, you have to have him establish, you have to lay a better foundation and you have to have him established A, that he has a basis of knowledge that this is basically how everybody does it or the prevailing view as how -- how it should be done or that's the industry standard or what have you. And then, you know, he can testify to that. But right now you really haven't laid a foundation for him to testify globally. Again, he can testify about what he does and had he worked in this case he would have done that, that's all fine. But the way it's coming in, it's sort of not clear that that's where you're going with this. And as I said if you --

MR. STAUDAHER: Fair enough.

THE COURT: -- want to use this more globally to say, well, they didn't comply with industry practices, you've got to set up that he knows what the industry practice is --

MR. STAUDAHER: I understand.

THE COURT: -- and he can testify about that. Because right now all I've heard from this doctor is him saying this is what I do and other people do it differently. Well, okay, is it 50/50, is it 70/30 -- you know, anyway, you need to lay a better foundation. If you're just going to use it to show again, you know, here's what he would have done, he didn't work in this case, Dr. Desai lied about him being -- when I say this case, being involved with supervision and then to tie it in to the records that clearly he wasn't involved in

supervision because he didn't bill that way, then you need to make it clear -- then that's fine. But then it has to be specific to him. Is that clear?

MR. STAUDAHER: Fair enough.

THE COURT: Okay.

MR. STAUDAHER: That's clear but there's two -- there's two points --

MR. SANTACROCE: Can I put mine on the record?

MR. STAUDAHER: -- just a second. There's two points --

THE COURT: Well, let him finish.

MR. STAUDAHER: Part of what -- in relation to seeing these forms where he's listed as an anesthesiologist supervising person that he supposedly signed them, I mean he went out and he looked at some of these things. That's one of the parts that they --

THE COURT: And that's all fine. Anything his name is on or anything he's alleged to have done --

MR. STAUDAHER: Right.

THE COURT: -- certainly you can question him about that and you're not going into expert testimony when you question him about those things. Or what -- you know, again, what he does, what he did, what he didn't do. That's all fine.

MR. STAUDAHER: But as far as anesthesia billing

practice, him being an expert in any capacity, whether it's local or not, I mean he knows what you're allowed to do and what you're not allowed to do.

THE COURT: Okay. Well, you didn't ask it that way. You're saying --

MR. STAUDAHER: I know, I didn't get a chance to.

THE COURT: Okay. Well, you know, we're -- we're not sure necessarily where you're going.

MR. STAUDAHER: Well part of it is that they're -- they are under the misconception that he's just here as a clean percipient witness. That's not what he's disclosed as.

THE COURT: Okay. Well he can provide expert testimony as you've disclosed. But in order for him to do that you still have to lay a foundation that he's qualified to -- to provide the testimony.

MR. STAUDAHER: Certainly.

THE COURT: And so far that hasn't been done because by his own answers, well, I do it this way but other people do it that way. So, you know, that -- you're still -- what he does. So you haven't -- you know, maybe we're getting there and you got interrupted too soon or too frequently or whatever. But so far you haven't laid a foundation that this -- you know, or if there's three or four accepted ways and he wants to testify about that, that's fine. But you still have to, you know, lay the foundation.

Are you familiar with the accepted billing practices, Doctor? Yes, I am. And are there several ways that you can bill that's accepted in the industry? Yes, there are. And what are those methods? Blah-blah-blah. And what method do you use, Doctor? Blah-blah-blah. What about this method, would that be accepted? No, it would not. Why not, Doctor? That's fine.

MR. STAUDAHER: Okay.

THE COURT: But now you -- we know that he knows. Mr. Santacroce?

MR. SANTACROCE: As I indicated at the bench, I wanted to make an objection to the relevance of Dr. Yee's testimony and move to strike his entire testimony. Two reasons. First of all, as a percipient witness, he -- they haven't shown any relevance as to what he knows on July 25th and September 21st of 2007. He hadn't been in the -- he hadn't worked for the clinic apparently since 2001 or performed any procedures there. Secondly, as an expert witness, they haven't qualified him as a billing expert of CRNAs.

This case deals with CRNA billing, not anesthesiologist supervising CRNAs. They haven't established his qualifications that he's supervised CRNAs and what the practice for billing for CRNAs was. And I don't think that they're going to be able to establish that because by his own

testimony, he's only worked with CRNAs four times in his career. So those are my objections and I move to strike his testimony in its entirety.

THE COURT: Well, so far his testimony, he really hasn't provided -- I mean -- about -- you know, he talked about the form and what he would have done and, you know, that's probably relevant to the charge that no, he wasn't supervising, number one. Number two, with respect to the fact that he was not there that day, the days in question, I'm assuming the point of this testimony is just it's part of the practices of overbilling and misrepresentations and cutting corners and that sort of thing. Is that the point of this testimony?

MR. STAUDAHER: In part, Your Honor, yes. And there's also direct communications that he had with Desai about these issues. So --

THE COURT: Okay.

MR. SANTACROCE: He doesn't even know the regulations in Nevada that CRNAs can work unsupervised without an anesthesiologist and he's leading the jury to believe that they had to have an --

THE COURT: And that's not true, I mean --

MR. SANTACROCE: -- anesthesiologist supervision. I mean that's totally misleading and in each --

THE COURT: Yeah, Mr. Staudaher, what about that?

They're not -- I mean -- I mean here's the thing. If it -- misrepresentations were made and the point of that is it's just to show the way this clinic was being run and corners are being cut, then he can certainly present that. If you don't have evidence and that's not the law that it was required, you can't suggest that it was required. It may still be relevant, Mr. Santacroce. Again, it's relevant to the misrepresentations and just the way the clinic was being run. Is that kind of the point of this, Mr. Staudaher?

MR. STAUDAHER: Well, in -- in -- in part, Your Honor, yes. But I don't -- I didn't get the issue that he's raising, that Mr. Santacroce is raising that he made a representation that you have to have a -- you can't run independently at all. If that's what --

MR. SANTACROCE: That's -- that's the inference --

MR. STAUDAHER: -- it is I'll clear it up or he can clear it up on cross.

THE COURT: Yeah, I think that may be the inference. Because remember when I said at the bench, I said, that's not true. And, in fact, at other very highly regarded institutions, you get a CRNA and there's no -- you know, anesthesiologist hovering about. I can tell you this on personal experience.

MR. SANTACROCE: But he can't testify to the standards, as Ms. Stanish pointed out. He's testifying about

standards. He can't testify to those standards that he doesn't know and he's misleading the jury.

THE COURT: Okay. Mr. Staudaher said he would clean it up. I've already told Mr. Staudaher if he testifies about standards he's going to have to lay a better foundation to show that he knows what he's talking about. That has not been done yet. So Ms. Stanish, no need to--

MS. STANISH: No, you've already --

THE COURT: -- chime in here?

MS. STANISH: No, I'm not chiming in.

THE COURT: All right.

MS. STANISH: You've already told him how he should set his foundation.

THE COURT: If anyone needs a two or three -- you know, five-minute break take it right now.

(Court recessed at 3:43 p.m. until 3:49 p.m.)

(In the presence of the jury.)

THE COURT: All right. Court is now back in session. Mr. Staudaher, you may resume your direct examination.

MR. STAUDAHER: Thank you, Your Honor.

BY MR. STAUDAHER:

Q Couple things. When we left off I was asking you some questions about colonoscopy codes, things like that. Do you remember coming before the grand jury at one point?

A Yes.

Q Do you remember giving some testimony in which that very subject came up?

A Yes.

Q Okay. If I approached you and gave you a copy of the transcript to refresh your memory, would that possibly do so?

A Yes.

MR. STAUDAHER: Okay. And I'm referring to page 41 for counsel. May I approach, Your Honor?

THE COURT: You may.

BY MR. STAUDAHER:

Q You can read as much before or after to get context as you need. That page right there. When you're done let me know if that refreshes your memory. Does that refresh your memory?

A Yes.

Q What is the anesthesia code for a colonoscopy?

A As I remember, it was 00810.

Q So 810 if we took off the front zeros?

A Yes. But these codes are subjected to -- to change by the different additions of the ASA textbooks, codebooks.

Q But back then that's what it was; is that right?

A As I can remember, yes.

Q Okay. And what about for an upper endoscopy?

A 00740.

Q So 740 for upper endoscopy, 810 for a colonoscopy.

A Yes.

Q Now obviously, you must have learned somewhere about how to bill anesthesia time; is that fair?

A Yes.

Q Where did you learn that information?

A Just in my own medical practice.

Q So as far as your medical practice is concerned, I mean is there a booklet or some sort of documentation that you use to figure this stuff out?

A Yes.

Q And what is that?

A It's a ASA Anesthesia Unit Codebook.

Q So you're familiar with that?

A Yes.

Q Do you use that on a daily basis in your practice?

A Yes.

Q When you say ASA, what does that stand for?

A It stands for American Society of Anesthesiologists.

Q Okay. And this is standard -- standard publication that's used across the country by

anesthesiologists?

A I would think so, yes.

Q Have you ever -- have you used it wherever you practiced before?

A I've only practiced in Las Vegas.

Q So it's used here?

A Yes.

Q Do you know other anesthesiologists in town that use the same codebook?

A Yes.

Q Do other anesthesiologists in town use some other different codebook?

A I haven't seen any other codebooks.

Q So that's your experience is that codebook is used by the anesthesiologists here locally?

A Yes.

Q Now in that, does it have codes like we just talked about, 710 -- or is 810, 7 -- 760 I think?

A Yes.

Q And does that not only denote the type of procedure but the base units for the anesthesia that you can charge for it?

A Yes.

Q So you've got that information. And is that -- have you seen anybody depart from that, make up their own

codes to change it around at all as to what they would bill for the -- as far as the base units for example?

MR. SANTACROCE: Objection, foundation.

THE COURT: Overruled.

MR. STAUDAHER: I'm asking his --

THE COURT: Over -- I overruled.

MR. STAUDAHER: Okay, sorry.

A I have not seen that.

BY MR. STAUDAHER:

Q And do you know many anesthesiologists in the community?

A Yes.

Q A lot of them?

A Yes.

Q Have you worked with some of them at times?

A Yes.

Q In fact, have you been in different groups over the time you've been here?

A Yes.

Q So you've worked independently and you've worked in group settings?

A Yes.

Q Do you have a -- a -- as far as the billing goes, do you bill your own -- own stuff or do you give it to a billing company to do?

A We've done both.

Q So you've done both over the time?

A Yes.

Q Have you used only one billing company or -- or more than one?

A More than one.

Q Do they do it the same way? I mean you obviously know what you bring them and what they bill and what you get back, correct?

A Yes.

Q Is it the same way universally between all the billing companies?

A Yes.

Q And in -- and do some actually take a higher percentage or lower percentage depending on which kind of company it is for their fee?

A Yes.

Q Is that the only thing that really varies between bill to bill to bill?

A Yes.

Q Now as far as your involvement in those cases where you have done, you know, colonoscopies or upper endoscopies, the base units are five, I think is what it said here in your -- in your testimony, correct?

A It might have changed over the last 10 years.

Q And I'm just talking about back then when you gave your testimony and about the time when all this was going on.

A To the best of my recollection, yes.

Q Okay. Now you also said that you know that there are -- that time is how anesthesia is billed above the base base; is that fair?

A The time would be in 15-minute increments, yes.

Q So now you said that if for example --

MR. WRIGHT: Objection to the leading.

THE COURT: Well, overruled.

BY MR. STAUDAHER:

Q You said that a -- if a procedure lasted say 16 minutes, that that would be technically two anesthesia units, correct?

A Yes.

Q And you said it's your personal experience that you would not bill for the extra unit; is that fair?

A Yes.

Q Do you know anesthesiologists in town that would bill for the extra unit?

A Yes.

Q So is the time important on anesthesia records to get reimbursed?

A Yes.

Q Is that universally known among all anesthesiologists that work in town to your knowledge?

A Yes.

Q As far as your particular involvement in a case, whether you would personally do it or not, if you had been a supervisor for somebody, such as a CRNA, would you have ever encouraged, allowed or condoned the billing in the way that I've -- I just told you?

A So alter the time?

Q Not alter -- I didn't get to alter time.

THE COURT: That I -- I -- I don't know if he understood the question but I didn't understand the question.

MR. STAUDAHER: Okay, bad question.

THE COURT: So can you rephrase the question?

BY MR. STAUDAHER:

Q Let's talk about just the 16 minutes for two units versus one. Your personal deal is that you would just do one unit, correct?

A Yes.

Q Is that because it's close enough to the 15 that it -- you don't feel it's appropriate to bill for another unit?

MR. WRIGHT: Objection to the leading, Your Honor.

THE COURT: That's sustained. Why --

MR. STAUDAHER: He's actually an expert, Your Honor.

THE COURT: Well, I mean you can ask him why is that.

THE WITNESS: I -- I don't do it because number one, I don't think it's right. Second, I think that would probably call upon reviews by Medicare, by other insurance companies to look in on the matter.

BY MR. STAUDAHER:

Q Okay.

THE COURT: But you said that you're aware of other doctors who don't feel that way apparently and do it differently.

THE WITNESS: Yes, some other people do that.

THE COURT: Okay. Go on, Mr. Staudaher.

BY MR. STAUDAHER:

Q If you had ever supervised or would ever supervise anybody, would you allow them to bill in that manner?

MR. SANTACROCE: I'm going to object, improper hypothetical.

THE COURT: Well, overruled.

THE WITNESS: I would not.

BY MR. STAUDAHER:

Q Now, I'm going to move to the other thing you mentioned, which was actually altering the times. Have you ever in your practice ever altered the anesthesia time beyond what it should be?

A No.

Q And what I mean by that is padding time, adding time that you did not actually legitimately could bill for.

A No.

Q If you had ever supervised anybody, would you have agreed or condoned that -- or sort of procedure with somebody else?

A No.

Q Why not?

MR. WRIGHT: Can we approach the bench, Your Honor?

THE COURT: Okay.

(Off-record bench conference.)

THE COURT: Next question.

BY MR. STAUDAHER:

Q Next series of questions relate to your interaction directly with Dr. Desai. Okay?

A Okay.

Q Now you had said that at some point in the past that you had entered into some -- or at least talked about some sort of supervisory role for a certified nurse anesthetist in his clinic; is that correct?

A Yes, there was discussion.

Q Okay. And tell me what -- what it was about that discussion -- I mean how did that transpire, how far did it get, that kind of thing.

A The discussion started when I believe we realized that as fast as I could work there was only a certain number of patients that I could do anesthesia for within the -- the day that I would -- when I go over to his endoscopy center. My speed is limited. But if we had more CRNA available and more rooms to do it in, then I can supervise multiple CRNAs simultaneously and then to allow more cases to be done. And so that's how the discussion started and I believe it led to --

MR. WRIGHT: Objection. Can we just here what was said by each? I'd like to hear the discussion.

MR. STAUDAHER: By each?

THE COURT: Well, okay. Don't speculate but I think -- when you say I believe, do you mean this is what you -- your recollection is?

THE WITNESS: Yes.

THE COURT: Don't speculate as to what anybody else may have been thinking. I don't know that that's what you were doing or think that's what you were doing --

THE WITNESS: No.

THE COURT: -- but that may have been the basis of the objection. So you can continue with or follow up with the next question.

THE WITNESS: So Dr. Desai expressed interest in hiring CRNAs. And I pointed out to him that the CRNAs had to

be supervised by M.D. anesthesiologist on site for the supervision to work.

MR. SANTACROCE: I'm going to object, Your Honor, misstates the law.

THE COURT: All right.

MR. STAUDAHER: That's not the point at this point.

THE COURT: All right. Well, that's sustained to the extent the witness cannot opine or state the law. It is overruled to the extent that the jury may consider that just as part of the conversation that was going on between the witness and Dr. Desai. So you may proceed -- you may proceed with your answer, Doctor.

BY MR. STAUDAHER:

Q So at least you told -- right or wrong, whether that's the state of the law or not, that's what you told him, correct?

A Yes.

Q Now did -- what were you basing that off of?

A Based on my personal medical practice experience.

Q Okay. So you told him that that's -- and he's asking you to be the supervisor, correct?

A Yes.

Q And you told him that's the way it would have to be, that somebody would have to be directly supervising the

CRNAs?

A Yes.

Q In fact, did you -- did you tell him more than that about who would be responsible if that wasn't the case?

A I told him that whichever M.D. doctor was in the room when the CRNA was performing his duty, if something was to go wrong due to anesthesia complication, the M.D. performing the procedure would be held responsible for the action of the CRNA.

MR. STAUDAHER: Can I have the doc camera, please?

MR. WRIGHT: Once again, I object to that, that that's --

THE COURT: Well --

MR. WRIGHT: -- simply his opinion.

THE COURT: -- overruled.

MR. WRIGHT: Okay.

THE COURT: The Court has instructed the jury as to how the testimony may be considered.

BY MR. STAUDAHER:

Q Can you go ahead and tap that in the corner? I'm showing you what has been -- this is State's Exhibit 65 and this is Bates number 468 of that. We're going to zoom in on it a little bit because I know it's very small. But can you tell us if you recognize that document?

A Yes.

Q What is it?

A It seems to be a letter of intent for me to provide supervision -- supervisory service to CRNAs at Dr. Desai's endoscopy center.

Q Do you see any writing on this document -- and I can bring -- I brought it up to you a little bit earlier and I'll bring it up to you again if you need to, but do you see any writing on this document that is, in fact, your -- your writing?

A Yes.

Q Can you circle for us in general the areas that have your writing on this document? Okay. Go ahead and clear that if you would.

MR. WRIGHT: I want to make a record of that.

MR. STAUDAHER: He circled the handwritten portion on paragraph three and the handwritten portion on paragraph five, for the record.

THE COURT: That's the record.

BY MR. STAUDAHER:

Q Does your signature appear on this document at all?

A Yes.

Q Now I want to zoom in on that for a moment and then we're going to zoom in on some other portions of this. Does that appear to be your actual signature?

A Yes.

Q Now the date here appears to be the sixth of -- or excuse me, July 31st of 2006.

A Yes.

Q There's a signature for what appears -- at least the name underneath it is Dipak Desai and also a date, which if you look at it closely, it looks to be the same, the sixth -- or rather the sixth of -- it looks like of July of 2006. Do you see that?

A Yes.

Q Now the handwritten portions, let's -- let's go through this, if you would. Let's see if I can just zoom it out just a little bit so you get the -- can you read that to us, please, out loud?

A The one with the offsite?

Q No. Just go ahead and read the whole thing to us out so that the jury can hear it.

A "This agreement dated May 1st, 2006 by and between Gastroenterology Center of Nevada, a Nevada joint venture or its successor or assigns, and Thomas C. Yee, M.D., d/b/a Professional Anesthesia Consultants. Thomas C. Yee, M.D. in conjunction with Dipak Desai, M.D. of Gastroenterology Center of Nevada, agrees to supervise and consult with CRNAs employed at Gastroenterology Center of Nevada. Supervision and consultation services will be provided regarding the

anesthesiology service provided by said Gastroenterology Center of Nevada employees. It is agreed that Thomas C. Yee, M.D. will be available for phone consultation in addition to on-call premise consultations as necessary.

The CRNAs who will be under the off-site supervision of Thomas C. Yee, M.D. are as follows: Barbara Glass-Seran, CRNA; Linda Hubbard, CRNA; Ronald Lakeman, CRNA; Ann Marie Lobionda, CRNA; Ralph McDowell, CRNA; Keith Mathahs, CRNA, Vincent Mione, CRNA. It is further understood that this agreement will include any and all CRNAs who may be employed in the future with Gastroenterology Center of Nevada.

This Supervisory Agreement shall include all ASA cases performed at the -- in the Endoscopy Center of Southern Nevada, LLC, located at 700 Shadow Lane, Suite Number 165B, Las Vegas, Nevada 89106 and the Dessert Shadow Endoscopy Center, LLC, located at 4275 South Burnham Avenue, Suite Number 101, Las Vegas, Nevada 89119. It is agreed that cases that are classified as ASA -- greater than ASA 3 will be performed by Thomas C. Yee, M.D. and not by the CRNAs. Unless the M.D. Anesthesiologist is on-site, all supervision is limited to chart review for quality assurance purpose only.

Accepted -- accepted by Dipak Desai, M.D. Managing Partner of Gastroenterology Center of Nevada, 700 Shadow Lane, Suite 165-A, Las Vegas, Nevada 89106. And signed Thomas Yee, Professional Anesthesia Consultants, 3540 West Sahara Avenue,

Suite 434, Las Vegas, Nevada, 89102."

Q Now the portion that you read here on paragraph three where it has the words off-site, it appears as though there's something else written up here. What is -- what is that?

A Oh, that's my initial.

Q Okay. And the same thing on the handwritten portion down below here. If we go off to the side there's also what appears to be some initials there?

A Yes.

Q So this was the agreement that you were proposed -- or proposing to enter into with Dr. Desai?

A I would call this a letter of intent.

Q Okay. And it indicates there that -- again, what is your understanding based on the notes that you put in here as to what your supervision would encompass if you were not on-site?

A If I was not on-site I was to only do chart reviews for quality assurance purposes.

Q That's it?

A That's it.

Q Did you ever supervise anybody on -- at the Shadow Lane campus?

A No, never.

Q Did he ever pay you a dime to do any supervision

work?

A No.

Q Did you bill for any anesthesia services that were provided by any of those anesthesiologist -- or excuse me, nurse, certified nurse anesthetists listed there?

A No, never.

Q Did you ever receive a penny of compensation for any of this?

A No, never.

Q Did you ever hear from him again about this after you -- after you signed this document?

A No.

Q Now I want to show you a different one and this one is Bates number 6 -- or 469. Do you see this one? It's a little bit of a different one, but I want to refer to -- it's another Supervising Physician Agreement. Do you see that?

A Yes.

Q Now, if we go down to the bottom though, there are three signature blocks this time. Do you see that?

A Yes.

Q One says Dipak Desai, one says Vishvinder Sharma and then one says Thomas Yee.

A Yes.

Q Now the dates over here are in 2002. It looks like all the same date, April 1st of 2002.

A Yes.

Q Do you ever recall signing such a document?

A I don't recall.

Q Look at that signature there. Does that appear to be your signature there?

A That's, to my recollection, that's not how I sign my signatures.

Q As a matter of fact, if we go to the previous one where you said it was your signature, you see it there? And this is on, again, 6 -- or 468 --

A Yes.

Q -- and then we look at 469, that same -- same signature. Do they appear different to you?

A They're different and the -- the dates are different.

Q Yes. The dates are clearly different, they're four years apart.

A No, no, no, the writing on the dates. I didn't write that date. That date, the handwriting on the date here next to my name is identical to the handwriting of the dates next to Dr. Desai's signature.

MR. SANTACROCE: I'm going to object to that, Your Honor. There's been no qualification that he's a writing expert.

THE COURT: All right. That -- that's sustained.

MR. STAUDAHER: Fair enough.

THE COURT: He can certainly say it's not his writing --

MR. SANTACROCE: Right.

THE COURT: -- or he doesn't recognize it.

THE WITNESS: You can compare the date writing --

THE COURT: Well, sir, you're going --

BY MR. STAUDAHER:

Q No, we don't want you to do that.

THE COURT: -- beyond your expertise as a physician, so.

BY MR. STAUDAHER:

Q Suffice it to say that this is not your handwriting for the date; is that right?

A No, no. You can compare that to my other handwriting for the date on the other piece of paper.

Q Okay. And we'll -- well, just go ahead and do that while we've got it up here. There it is, right there. Now, this second Physician Agreement, which is four years earlier, was there anything that -- I mean, do you remember talking with Dr. Desai about maybe entering into an agreement before 2006 with him like you had talked -- or like you had done in the previous one that you actually signed?

A We talked about it, yes.

Q Okay. But you didn't actually do anything?

A No.

Q Again, related to this current one that we're showing, which is 469, any payment for services rendered during that time?

A No.

Q Did you ever supervise any CRNAs during that period of time?

A Never.

Q Did you ever bill for or receive any payments for any billing of any CRNAs during that time?

A Never.

Q The issues with regard to Dr. Desai and the conversations you had about this, how many different ones were there to the best of your knowledge?

A One or two.

Q Would you have -- I mean is there -- is it possible that there were more than that?

A It's possible.

Q Did he ever after the last one, is that when it culminated in the -- the -- well, let me pull it up here, the Supervising Physician Agreement listed here, which is 468 where you actually signed it? The -- was it prior to that or after that last conversation?

A I have never -- I've never been back to the endoscopy center even after 2000, 2001.

Q Now, one -- just a couple last questions. With regard to the supervising that you were agreeing to do here, and I'm talking about whether it be chart review, if you were on-site it would have been something that you would have agreed to supervise actual procedures.

A Yes.

Q Okay. And when it says here ASA greater than three, what does that mean?

A That means patients with disease conditions to make them at higher risk for undergoing anesthesia.

Q Does that mean that patients that fell underneath that sort of bar, that you would have allowed off-site supervision?

A No.

Q Would you have ever been in a situation where you would agree -- I mean, I know you've -- you've initialed this here and put that -- that addendum in there, but would -- did you or would you ever have agreed to do off-site supervision of someone doing anesthesia on a patient?

A No.

Q Why not?

A To my understanding that's not legal.

Q That's what you believe?

A Yes.

Q Okay. Regardless of what -- whether the --

there's legality or whether it's legal or not legal, it's just something that you would not have done yourself?

A No.

Q Did you ever enter into any agreement with an individual by the name of Satish Sharma to do any supervisory work at the clinic?

A No.

Q Do you know him?

A No.

Q So he's not even somebody you've worked with?

A No.

Q Did you have any discussions with anyone else about supervising anesthesia -- CRNAs at any other location?

A No.

Q So this is the only time you've ever dealt with this issue and is that the extent of it?

A Yes.

MR. STAUDAHER: Pass.

THE COURT: All right. Who's first for cross, Mr. Wright?

MR. WRIGHT: Yes.

CROSS-EXAMINATION

BY MR. WRIGHT:

Q Did you ever -- did you ever have any discussions with Tonya Rushing?

A I don't recall.

Q Okay. Do you know who Tonya Rushing is?

A Yes.

Q Okay. Did you talk to her at the same time you were talking to Dr. Desai about whether or not to implement a supervision agreement where an anesthesiologist would supervise CRNAs?

A I only talked to Dr. Desai about this.

Q Okay. So you didn't talk to Tonya Rushing about it?

A I don't recall.

Q Does that mean you didn't or you don't -- I -- when you say it -- does I don't recall mean you could have and you're not denying it or I did not?

A Tonya is a manager of the clinic.

Q Yes.

A I would not talk to a manager about these matters, I would talk to the principal, the doctor --

Q But you wouldn't talk to a manager?

A The manager has no right to make decisions anyway, so it's a waste of my time.

Q Okay. Now you talked to Dr. Desai back -- first of all, you -- you were -- I don't want to say you were working for Dr. Desai, you were available as an anesthesiologist before he went to the CRNA practice, he would

call you and you would come and work, correct?

A I was never an employee --

Q That's what I said.

A -- right. And I was one of a large pool of anesthesiologists that he would call to provide service at his endoscopy center.

Q Okay.

A The frequency at which I appeared at his endoscopy center, in my recollection, was about once every five to six months.

Q Okay. Well, 40 or 50 times?

A No, I have never been 40, 50 times, no.

Q You've never been there 40, 50 times?

A No, no, no.

Q Okay. Did you tell the police when they interviewed you that you had done 40 to 50 procedures for Dr. Desai?

A Do you know how many procedures are done at one time, in one sitting?

Q Just a moment, sir. My question was, did you tell the police when they interviewed you --

A Yes, one -- one day's work involved 20 cases.

Q -- just a moment. Let me talk then you talk. It's simpler for the court recorder. Did you -- do you remember being interviewed by the Metropolitan Police

Department?

A Yes.

Q Did you tell them that you had done 40 to 50 cases?

A Yes.

Q Okay.

A So?

THE COURT: Let me ask you this. Each time you showed up at the clinic this every five to six months, how many cases would you do?

THE WITNESS: About 20 cases each time.

THE COURT: And by case we mean patient?

THE WITNESS: Yes.

THE COURT: Okay.

BY MR. WRIGHT:

Q Okay. So you did more than 40 to 50, you would do 20 every six months?

A No.

Q Okay. Well, you're losing me.

A The frequencies would be once every six months, but I did not go that many times altogether.

Q Okay. So you estimate 40 to 50 procedures?

A Yes.

Q Okay. And that was pre-CRNA days, right?

A Yes.

Q And at the time Dr. Desai talked to you about going to a CR -- CRNA type practice, correct?

A Yes.

Q Okay. And he told you the reason, correct?

A Yes.

Q Okay. And he told you that it was too difficult looking, the anesthesiologist like yourself, for an expanding practice and he was considering going to CRNAs and considering going -- expanding to like an additional procedure room; is that correct?

A Yes.

Q Okay. And so then in discussing it with you, you and he proposed a type of arrangement, which we'll call a letter of intent. Okay?

A Yes.

Q Okay. And it was -- was the contemplated arrangement, something being considered as a possible intention be that you would supervise the CRNAs as an anesthesiologist?

A On-site, yes.

Q Yes, on -- right. You being there and doing it?

A Yes.

Q Right. And that's what you had in mind and proposed to him.

A I did not propose to him --

Q Okay.

A -- this came up in discussion.

Q Okay. Well it -- by proposed, what I'm meaning is, if it had -- if it had occurred under those terms, you were interested in it.

A Yes. If I were to be called to go there in person working in a supervisory role with one or two CRNAs, that was something I would be interested in.

Q Okay. That -- that did not come to pass, correct?

A Correct, never happened.

Q Okay. Right. You didn't -- you -- you know that he -- they hired their own CRNAs, correct?

A Yes, he hired his own CRNAs.

Q Okay. And you knew he didn't go forward with your -- with the proposed on-site supervision plan, correct?

A Yes.

Q Okay. And you were -- you initially spoke to Dr. Desai about that probably in 2000 -- well, if you haven't been there since 2001, it would have been around 2001.

A Yes.

Q Whenever it was that the practice went to -- Dr. Desai's clinic practice went to CRNAs, it would have been right before then. Is that a fair characterization?

A I had never been to the endoscopy center in

A Yes. Actually, that's how we started in our laboratory originally in 90s NS5B, the region, which we now we use only to detect genotypes and subtypes was used for transmission studies. People still publish papers using NS5B region or NS3 region to detect transmissions.

Q So -- and I guess you kind of mentioned that earlier, that different labs will look at different parts of the RNA to do this kind of analysis?

A The most popular region is hypervariable region one because everybody appreciated significance of this region for this kind of analysis. But there are groups that may use different regions, that's true.

Q I want to jump now to the percentages that you have there to make sure I understand what that means. On your -- on this chart -- well, on your diagram, I should say, you used the maximum nucleo sequence identity, the maximum, which would come from this column, right?

A No. It's -- it should come from maximum.

Q Oh, I'm sorry. Yeah, what am I thinking. Yeah. So this comes from -- from this column. You just put the -- totaled them all up and came up with the range on your chart; is that correct?

A That's correct.

Q And the statistics, not that I want to get into a big discussion about statistics, but you -- is there some

cut-off where there's a -- where the statistics create some kind of doubt or other possibilities if it's less than a certain percentage, like 95 percent. If it's less than 95 percent then it's not in your mind as definite as, you know, some of these 100 percent things that we were looking at. And I know I'm not using -- it's not a scientific question, so I'm asking you to help me out --

A Yeah, that's why I'm a little uncomfortable --

Q -- on that. Do you know what I mean?

A -- because the model by itself actually tells a story. But if we are to talk about percentages, yes, we did a statistical analysis and we analyzed quasispecies population, sampled exactly using the same methodology because if a different matter would be used, they may come to the different biases. You know after this analysis, we learned that if genetics -- maximum genetic identity less than three percent in reality for subtype 1-A, I believe 3.2 percent for subtype 1-B, it would be -- I'm fuzzy a little, I need to look it up, but let's say four percent. And if it is below, let's say, this value, I'm very comfortable to say that those patients represent the same strain.

Q Just to make sure I'm clear on this, is it that -- because you mentioned that four percent earlier and so that's where I was trying to get some clarification. Are you -- and maybe I'm just being too simple minded here, but with

the percentages, if -- if instead it said -- when you say four percent, are you saying 90 -- if it were below 96 percent it would be problematic?

A Oh, yeah. Then I would rely only on phylogenetic analysis to see what phylogenetic analysis tells me.

Q And I -- and, you know, this was part of my question and I hope you can give us a -- a dumb down answer so that we can understand it. The, you know, you were using the maximum figures on the chart and then here we have the means. Is that just the average?

A Yes.

Q And, you know, I see some of these figures are well below the 96 percent. You know what I mean?

A Oh.

Q So could you explain that?

A Then you need to look into structure of the population. This is very important because when I talk about maximum identity, I'm looking at the entire population and I'm looking at each and every variant irrespective of its frequency because the same variant, exactly the same variant may be very frequent. Let's say I comprise 70 percent of the population. This significantly may change conclusion for the means. But at the same time, we're looking at minimal distances or maximal identity.

And if we have, let's say, I already tried to explain this, if we have something like 10 variants sampled from one patient and 10 variants sampled from another patient, then I'm making all possible comparisons between being obtained from one patient to another one. And in this case I should have -- what are this -- 100 minus 10, like 45 comparisons. So I'm looking at all those 45 comparisons, between 10 against 10 and then I choose the minimal, the minimal distance and that what is an maximum identity here.

Q All right. I don't understand, but that's all right. The next area I want to go to is the -- I'll -- I'm going to really keep this simple because I'm just looking at dots. Okay? And if you could join me here. And I know this is all one-dimensional. I imagine in real life you've got these molecules that are three dimensional --

A No.

Q No, it is? It's just flat? You learn something new every trial. And just in my simple history major mind, I see on the right branch of the host patient, NVC45 is where I'm looking, Mr. Rubino. As I understand it, he -- it's because he had hepatitis C for a long time, he had this -- more dots than the -- the more colorful dots, correct?

A Well, no, because population is very heterogeneous, basically one dominant branch here and then minor branch here.

Q So I'm just going to keep this simple. Why aren't there any dots here?

A To some extent --

Q I'm sorry. And for the record I was pointing on -- at the right branch. It looks to have maybe ten times more dots then the left branch.

A I may only have brought the size wide, because nobody would know and this is actual research. I would assume that this population, dominant population, when we all have this dots of any other color, became dominant in this patient because it adapted to this patient. In this patient they're already antibodies that chasten this virus, kill some certain members of the other subpopulations and this become dominant population in this patient by sheer chance. But there are some remnants of previous subpopulations that still can be identified with these branches, with this small minority branches. And those actually become more transmissible when it come to naive host. We did not experience this infection before and who has no antibodies yet before transmission.

Q Okay. And -- and -- and moving over to your July cluster. And why do we call that a cluster when there's only one match? Is there -- is cluster some kind of significant term?

A No. It's just -- just basically this also a cluster, just a set of variants.

Q So we have a cluster of one or two, I guess.

A Yeah. It represent two patients and they -- but there are many different quasispecies variant samples so that's why it's very convenient for us to call them cluster.

Q And then similar to this September cluster, the right branch, is it Mr. Ziyad, it has I guess what you would call a dominant branch with several quasispecies; is that correct?

A That's correct.

Q And then there's -- there's a match on one, two -- and I can't even count those, but on those -- those smaller branch, you have the -- the -- what matches from Mr. Washington; is that right?

A Yeah, that's right.

Q And -- and I want you to take a seat. As I understand what you're saying, is you're able to distinguish the -- the host patients, have it in their system longer and it somehow develops in a more complex RNA strain? I know I'm not using the right word. Help me out.

A Just set of variants.

Q Good enough. All right. Is there -- do -- when you do testing in the lab, do you test organs that are, you know, taken out of people who have hepatitis or are you just the blood guy?

A 99.9 percent would test only serum specimens.

Q Okay. So you're not looking at physical organs, a liver?

A No.

Q All right. Can you tell from this analysis and from this picture of dots that we're seeing, can you tell whether any of the -- we'll call them the colored dots, whether any of those individuals had hepatitis C separate and apart from what you're concluding came from the host patients? Do you see what I'm saying?

A Yeah. This analysis actually cannot determine disease, so we cannot say if any one of those patients has hepatitis C. The only thing we may say that these people infected with certain population of the virus, we sampled this population and then we genetically related.

THE COURT: Does that mean you don't determine like symptoms or --

THE WITNESS: No, we can't. Actually we cannot do it.

BY MS. STANISH:

Q And that's really not what I was going -- trying to get at. What I was trying to understand is you're comparing Mr. Rubino's blood with let's say -- is it number 1, C01, Mr. Meana's blood, so -- correct?

A Yeah, hepatitis C variance from these two --

Q Right.

A -- specimens.

Q And -- and you've come to the concluded -- conclusion that there's enough matches to make you feel to some degree above 95 -- above 96 percent that there is a match.

A That may be --

MR. STAUDAHER: Objection Your Honor, that mischaracterizes his prior testimony.

THE COURT: All right --

MS. STANISH: Please don't -- I'm not trying to mischaracterize the evidence, Your Honor. I'm just trying to --

THE COURT: I think that can -- right, happen because, you know. So Doctor, if, you know, Ms. Stanish says this was this -- you know, this was your prior testimony and that wasn't your prior testimony then feel free to correct her.

THE WITNESS: Okay. I didn't notice.

BY MS. STANISH:

Q You can you correct me. Did I mischaracterize your evidence? I'm sorry.

A This is a very complex assay. I just know it is the -- the way we discussing this. It's not about percentages, it is about this tree actually that's shown here because this tree shows -- show, though we use percentage and

I already said how we use it, but I would never use only -- only those numbers to establish [indiscernible] transmission. I would immediately ask, I need to see phylogenetic tree because that tree has a lot of information for me as well. That indicates that these two people share the same strain.

Q Okay. So that was a question I had and help me out with this if I misstate it. Okay? Your ability to determine the direction of the infection, as I understand it, your -- based on this picture, you're concluding that Mr. Rubino, number 45, is the host patient because he had this complex nucleotide and the other people were more recently infected so their -- they have a much smaller nuclectide.

A That's the general idea.

Q Am I mischaracterizing the evidence or saying it pretty close?

A No, it's pretty close.

Q Okay, pretty close. Now, what I'm trying to get at -- what I was trying to get at was whether if you have a patient, Mr. Meana, for instance, who had been previously infected with hepatitis C from a different source, not Mr. Rubino, from someone else and maybe he had a low viral load, would this study distinguish that given the area of the RNA strain that you evaluated?

A Seems that would be a different strain. It would be very well separated in this phylogenetic tree from

the source. We would definitely see that they not linked.

Q Well, I guess what I'm asking is you can be -- let's say I -- let's say for example, just an example, that Mr. Rubino was previously exposed, contracted hepatitis C when he was, you know, 19 years old and he cleared it from his system or it remained at a very low viral level in his system. And, you know, fast forward 30, 40 years now and he gets infected let's say with Mr. Rubino's blood. Okay? What I'm asking you is is that infection that he contracted -- I guess I call it a reinfection --

A Yes, it is.

Q -- is that the proper term?

A Yes.

Q Would his previous infection show up on your -- your chart here in your analysis?

A Only if titer would be sufficient of that virus from the previous -- from the previous infection. And if I would sample those variants I would clearly see that, but then they would be totally different from this variance, which was sampled from the second infection.

Q So if I'm understanding you -- I guess I didn't understand you. Could -- could you say that -- could you explain that to me --

A Let's say --

Q -- like I'm a third grader?

A I just don't remember names.

Q Oh, sure, so --

A Let's go over like a patient one --

Q -- using numbers --

A -- patient two or whatever it is.

THE COURT: Would you be able to discern that there had been two different infections?

THE WITNESS: Definitely I would if I could sample both populations from previous infection, from early infection and later infection but --

BY MS. STANISH:

Q Okay. You could do it but you didn't have that sample, right?

MR. STAUDAHER: Objection, mischaracterizes his testimony.

A No, let's assume --

THE COURT: I think given the complexity of the -- you know, I may remember it incorrectly or I may not have understood it --

MR. STAUDAHER: Okay.

THE COURT: -- so I think, Doctor, if Ms. Stanish says something and that's incorrect, again, feel free to say, you know, that's not correct or that's not what I said. And ladies and gentlemen of the jury, of course, once again you're reminded, you know, it doesn't matter what the lawyers say the

evidence is, it doesn't matter what I say the evidence is, it's your collective recollection as to what the evidence was that always controls in your deliberation, not anything any of us may say, meaning the lawyers and myself. So Ms. Stanish, would you state that again?

BY MS. STANISH:

Q I'll try. What I'm trying to understand, Dr. Yury, is, you know, tallying off of what Judge Adair said, I'm trying to understand if Mr. -- if sample 01, if that individual had a previous infection -- if I'm understanding your response to Judge Adair, would you have to have access to the other host patient when he was 19 years old, just an example, in order to do that test?

A No, I didn't say that.

Q Okay. That's what I didn't understand.

A No.

Q Then I'm not understanding. I didn't get to talk to you before right now, today, right?

A Yeah.

Q Okay. The -- so if someone was infected when they were 19 or 20, one of these individuals here, that would show up in the analysis in the E-1 and E-2 that you evaluated in the RNA strains?

A Okay. Now I believe I understand --

Q I'm sorry.

A -- but it is very complex question. It can and it cannot, it depends. Because if the first infection was completely cleared and titer is below detection, that the definition of clearance. So if virus cannot be detected I cannot sequence it, I cannot determine it.

Q Okay. That's -- that makes sense to me.

A Yeah. But if patient didn't clear this virus, let's say it was infected but didn't clear the virus and virus still circulating in this patient -- and if it is circulate in sufficient numbers so when I sample 100 or 200 variants, I still can't sample variants from the previous infection, then I definitely would see two different populations in this patient.

Q I see. All right. Fair enough. And speaking -- just a little -- well, let me finish with this one question. Is there any possibility whatsoever that Mr. Meana was the host patient who -- who shares the quasi sequences with your other colored dots on your chart, any possibility that happened in your mind?

A Me -- no -- what?

Q You know, I'm sorry, C01.

A Oh, 01 cannot be a source.

Q Okay. And why do you say that?

A It doesn't have -- it doesn't have significant heterogenics to be a source, to evolve this virus long enough

to -- so it is indistinguishable from other patients in this cluster.

Q And if he had some other -- well, I won't go down that reinfection route again. I want to talk to you about a term that you just used a moment ago, you talked about the virus clearing the system. What does that mean?

A It means -- it means that immune system of that host was effective in removing this virus from circulation from this patient and now this virus is undetectable in the infected person.

Q And help me out with the term. Is -- is -- if you -- if someone clears the virus, how is that typically done? That's a -- I can tell by your look that's not a good scientific question. Let me rephrase it. People can take medication to clear the virus from their system; is that correct?

A Yeah, can be drug-induced clearance or it can be spontaneous clearance.

Q And spontaneous clearance, does that just mean I got a pretty good immune system, it can fight off the virus?

A Yeah, it may mean this.

Q And is it -- is it incorrect to use the term cure? Let's say I take medicine and I clear it, does that mean I'm cured?

A If it was drug-induced, then you're cured.

Spontaneous clearance, yeah, I guess so. It's the same thing. It just basically saying that virus is undetectable in the person.

Q Is it lying in wait like in a remission like a cancer patient who can have a resurgent?

A I'm not a physician.

THE COURT: Is that beyond your expertise?

BY MS. STANISH:

Q Oh, you don't know?

A Yeah.

THE COURT: Okay.

BY MS. STANISH:

Q Okay. I'm sorry. I didn't know. I just wanted to understand that term, clearing. All right.

MS. STANISH: Court's indulgence. Sorry. I have nothing further, thank you.

THE COURT: All right. Thank you. Mr. Santacroce?

MR. SANTACROCE: Thank you.

CROSS-EXAMINATION

BY MR. SANTACROCE:

Q Doctor, when you received the samples from the Southern Nevada Health District, they were numbered with these numbers right here, correct?

A I believe they were numbered at CDC in our reference laboratory.

Q And those are --

A That's the way I receive them already with those identifiers, right.

Q Those are CDC numbers.

A Yes.

Q And you wouldn't have had the name or the date of infection, just numbers.

A Yes, only numbers.

Q I noticed that there's a big difference between number one and number 29. What happened to the other 28 numbers?

A I wouldn't know. I have no knowledge.

Q Are you telling me you only analyzed number one, number 29, number 30, 31, 41, and 42?

A Yes. I mean from this cluster, yes. We tested some other specimens, but not on this tree. But they were PCR negative in our hands, that's why they didn't find their way into this chart.

Q Because you couldn't genetically match them; isn't that correct?

A No. We could not amplify DNA to sequence even to do matching.

Q Is that because they weren't infected or you just didn't have enough samples?

A The acid which we use simply could not pick up

this DNA or RNA in this case.

Q And it's possible that those -- or is it, were those -- were those samples from the Southern Nevada Health District?

A I didn't get the question.

Q Well, the ones that you -- that -- what you just referred to that you couldn't match or couldn't link that you tested or analyzed, were those samples from the Southern Nevada Health District?

A I believe it is a misunderstanding. Those specimens, which were not reported on this tree in here, they PCR negative. So in this case I could not make match because I could not amplify DNA to make this match.

Q When you say negative, what does that mean?

A It means I did not receive PCR product to sequence.

Q You didn't receive what?

A PCR product to do sequencing.

Q Were there any samples that you analyzed that you could not -- other than the ones you just said, that you could not genetically match to this -- these trees?

A No. Those which we did not amplify, we did not match. It is just -- if you don't have fingerprints you have nothing to match.

Q So it's possible that you had some samples that

didn't have fingerprints as you say?

A Oh, yeah. We have a few specimens when we could not amplify DNA. That's why we couldn't go ahead with our assay, yes.

Q And those few specimens were from the Southern Nevada Health District.

A Yes.

Q And they were part of the days -- well, you wouldn't know that, never mind.

A Yeah, I wouldn't know.

Q And after you reached your conclusions you sent the samples back to the Southern Nevada Health District or did you not?

A I didn't do it in person because the way it -- we operate, I send it to epidemiologist in charge of this outbreak investigation and that epidemiologist reported back to Nevada.

Q And the names and the dates came later from somebody else.

A That's true.

Q Is there any way that you can identify from your research studies analysis the mechanism of transmission?

A No.

Q So you wouldn't know from looking at these whether it was from a blood transfusion, unsafe sex practices

or anything, correct?

A No, I wouldn't.

Q The only thing you can tell us is that Rubino and Ziyad, 45 and 46, were the source patients, correct?

A Yes. That's what phylogenetic genetic analysis suggests.

Q And you can tell us that certain of these numbers or patients were infected by those source patients; is that correct?

A That's correct.

Q Is there any degeneration in the samples because of time has lapsed?

A If that happened then we would have difficult time to amplify to get material to analyze.

Q Well, in your grand jury transcript you said that Ziyad's sample didn't come to you for several months after the others; is that correct? And Ziyad is 46.

A Yes, this specimen arrived I believe in May.

Q Would that have any effect on your analysis, the fact that it came so much later?

A Not with this short time span, but the only effect it would have actually, if it could, then I wouldn't be able to detect linkage by transmission.

MR. SANTACROCE: I have nothing further. Thank you, sir.

THE COURT: Thank you. Redirect.

MR. STAUDAHER: Just a couple, Your Honor. I'll try to make it quick.

REDIRECT EXAMINATION

BY MR. STAUDAHER:

Q What he was just asking about, with regard to the sample -- let's say it got on a siding Duluth and it was cooked before it got to you or it was set on a slow boat to China and it took 50 years to get to you. As long as it's frozen, it comes to you and it has detectable amount that you can amplify, meaning the DNA -- the RNA in this case, you could do the study, right?

A That's true.

Q Okay. So we're talking about if the -- if anything, you're not going to be able to actually detect any RNA to do your -- your comparisons.

A That's true. That's what I said.

Q Now you were asked a couple of questions about your chart and about the -- the NHANES data that's on there in sort of the white circles. You said that that was -- and Ms. Stanish used a couple of times, she was talking about that being a control group. Do you remember that?

A Yes, I do.

Q Could you have done that analysis without any of those people in it?

A Yes. We use this only for convenience, for visual appreciation of differences. In reality, I could have used only patients who are involved in those clusters in my phylogenetic analysis.

Q So they're not a control group, they're just for demonstrative purposes so you can visualize the differences; is that fair?

A On this analysis, yes.

Q And you said that this chart itself just shows the quasispecies diversity between the individuals; is that fair?

A Would you repeat this again?

Q The chart -- or your diagram shows the quasispecies diversity between the individuals.

A Yes.

Q Okay. So we kept quasispecies within an individual and then your chart saying, okay, what is this population in comparison to this person over here.

A Yes.

Q Are they related or are they not related?

A Yes. We're comparing two populations sampled from two patients.

Q And you were asked about those chart -- the charts and remember you had the five percent on one and three percent. Is it just like, as Ms. Stanish said, a -- a legend

of a map that it just scales it for you or either that or it's just the distance on the map that you're using?

A It is basically scale that allow us to look at this tree and approximate the distances between different variants along the tree.

Q Now last question. If I understand you correctly, we're talking about at the very maximum here it looks like the range from between 90.2 percent to 100 percent or 98.6 percent between the -- the -- at least genetic relatedness between the July cluster patients and between 98.2 percent and 100 percent in the September cluster, correct?

A Correct.

Q So 1.8 percent variation in all of the September cluster, correct?

A That's correct, maximum.

Q Maximum. And on the July cluster it's 1.4 percent.

A Yes.

Q So you said that -- if I -- if I'm correct, that anything -- you felt comfortable saying that they were identical, they came from the same source, they were identical viruses even though they're different quasispecies if it was above three percent, correct?

A Yes.

Q So --

A That's correct.

Q -- anything above 97 percent is essentially identity; is that fair?

A That's fair.

MR. STAUDAHER: Nothing further, Your Honor.

THE COURT: All right. Any recross?

MR. WRIGHT: Can I ask a question?

MR. STAUDAHER: Sure.

MR. WRIGHT: I tried to explain it to Margaret.

MS. STANISH: You know, just take it -- you want to take another 15 minutes and I'll ask it?

THE COURT: In the interest of hunger, go ahead.

RECROSS-EXAMINATION

BY MR. WRIGHT:

Q What -- what we defense lawyers are always worried about when we don't understand the science, which I don't, okay? We're worried that the science that you are telling us right now is going to be different or more refined and better 10 years from now and we're going to find out we were wrong. Do you understand what I'm saying?

A Okay.

Q Are -- are -- where are we or you in your molecular biology studies and everything to -- as to this being absolute certainty, your methods in what you're doing. Is it absolutely certain?

A It is absolutely certain in my mind.

Q Okay. And you know, you're a scientist, that what's certain today could be absolutely false 30 years from now, correct?

MR. STAUDAHER: Objection, speculation, vague and ambiguous because it doesn't purport to --

THE COURT: Well --

MR. STAUDAHER: -- be the same issue with regard to this test.

THE COURT: -- okay, sometimes that, not necessarily with this science, but sometimes in science that happens, something that's believed one day is discredited down the road; is that fair?

THE WITNESS: It is a fair statement.

THE COURT: Okay. Then go focus in, Mr. Wright.

BY MR. WRIGHT:

Q Okay. I mean I -- the -- have you read Stealing Gods Thunder, a book?

A No, I didn't read --

MR. STAUDAHER: Your Honor, relevance.

THE COURT: All right. And he hasn't read it anyway and it's not relevant.

BY MR. WRIGHT:

Q Okay. Well, I'm going to -- the -- you know who Thomas Jefferson is.

A Yes, I do.

Q Okay. Well he -- he invented the lightening rod in the 1750s. Okay? And at the time this was not only blasphemous, but it was also contrary to all conventional wisdom. And in the colonies they passed laws preventing the use of the lightening rod believe --

MR. STAUDAHER: Your Honor, is this testimony or --

THE COURT: Yeah, it's getting a little testimonial.

BY MR. WRIGHT:

Q Okay. Do you -- did you know that in the colonies they passed laws that prohibited the use of lightening rods because the belief was the lightening rod was pulling the lightening in.

MR. STAUDAHER: Objection. Relevance, Your Honor.

BY MR. WRIGHT:

Q Did you know that?

A No, I didn't.

Q Okay. Did you know that it was believed that lightening was supposed to be God's vengeance and so you shouldn't interfere with divine retribution.

MR. STAUDAHER: Objection, relevance.

THE COURT: Sustained.

BY MR. WRIGHT:

Q Okay. Now -- nowadays we use lightening rods, right? Correct?

A Yes, we do.

Q Okay and I mean they're safe and they aren't stealing God's thunder, right?

A They don't.

MR. STAUDAHER: Objection.

THE COURT: Do you use a lightening rod as a molecular -- I'm sorry. I mean, I think we're maybe --

BY MR. WRIGHT:

Q Okay. Time sake, okay.

THE COURT: I know where you're going but your -- but focus --

BY MR. WRIGHT:

Q Let me get -- well, I'm trying to give an example --

THE COURT: -- focus in on -- on what this --

BY MR. WRIGHT:

Q -- to flush it out. Do you know what phrenology is?

MR. STAUDAHER: Objection, relevance, Your Honor.

THE COURT: All right. That -- that's --

MR. STAUDAHER: Mr. Wright is not the cross-examining attorney. I allowed us some leeway for a few questions but this is --

THE COURT: That's sustained but may I see counsel at the bench here?

(Off-record bench conference.)

THE COURT: I have some juror questions up here. Juror would like to know, how long can the hepatitis C virus live when exposed to air? Meaning, you know, it's outside of the human body and then be exposed to air?

THE WITNESS: Yeah, most probably days and weeks.

THE COURT: Okay. And can the virus live in other solutions? Meaning if it's, you know, if it's in the blood and it's transferred into another solution such as, you know, saline solution or some kind of medicine that's in a liquid form or something like that.

THE WITNESS: Yes. Papers were published indicate that virus can survive for almost 20, 30 days in water.

THE COURT: In water, okay. Have there been any studies, if you know, about how long a virus can survive in other types of liquid solutions?

THE WITNESS: I wasn't following this really closely, but I believe another study claimed that virus was surviving in syringe also like more than one month.

THE COURT: In what kind of solution?

THE WITNESS: Syringe.

THE COURT: Okay. And then finally --

MR. SANTACROCE: Your Honor, I didn't hear that. What was the answer?

THE COURT: Can you state the answer again?

THE WITNESS: Oh, virus survived in a syringe.

MS. WECKERLY: Syringe.

THE WITNESS: Injection device.

THE COURT: Oh, a syringe.

MR. WRIGHT: I thought he was saying sewage.

THE COURT: You know, I heard the word and then I thought -- I didn't really understand what it was either, I'll just confess right here. And I thought, well, you know, obviously I just don't know what this word means or I just haven't been following along. I don't want to ask so --

THE WITNESS: So there's much confusion generating.

THE COURT: Thank you, Mr. Santacroce.

MS. STANISH: Yeah, we don't want you mischaracterizing the evidence, Your Honor.

THE COURT: All right. And then a juror here asks, let me just preface the juror's question. Is there new technology available today that was not, you know, that was not available at the time the study or the testing that you've described here in your testimony was performed?

THE WITNESS: It's not exactly it wasn't available, it wasn't used. It was already invented. Right now we use a next generation sequence in sampling quasispecies from individual patients.

THE COURT: And would the new technology available today change the results of your analysis?

THE WITNESS: I don't believe so because the only difference between what we did before and right now, before we manually sampled individual variants. That's why we could sample 20, 30 sometimes 200 variants. New technology allows us to sample thousands of variants at once and make it significantly cheaper and less labor intensive.

THE COURT: All right. Mr. Staudaher --

MR. STAUDAHER: One follow up.

THE COURT: -- any follow up?

MR. STAUDAHER: Related to that question.

FURTHER REDIRECT EXAMINATION

BY MR. STAUDAHER:

Q So if you can sample more, you already know how related these are based on your study, correct?

A Yes.

Q If you can sit and make more samples and get more information based on your analysis, what you do now, what you did back then, do you think that the cluster would be more tight or would it be essentially something where you, oh, gosh, all of a sudden these things aren't related at all?

A No, relatedness cannot be broken. If we already found those variants that link those patients. If we sample many more variants and that would show that there is no linkage, this data cannot be changed.

Q So it's either going to get better or it's going

to stay the same?

A It's going to be -- it's going to be the same, linkage not going to be changed. Even it may improve I mean in terms of percentages as we talked about -- about here. Since we sampled variants we may get less diversity between strands of -- between variants identified in different patients.

MR. STAUDAHER: Nothing more, Your Honor.

THE COURT: Ms. Stanish, anything else?

FURTHER RECROSS-EXAMINATION

BY MS. STANISH:

Q Real quick. Kind of tagging off someone's question there, general information about the hepatitis C virus. I understand from opening statement of Mr. Staudaher that hepatitis C was discovered like in the late '80s; is that correct?

A 1989.

Q 1989. And over time, over the years, has the virus's RNA, the stuff that you tested -- or not here, has the RNA changed over time historically?

A That's a very difficult question since we don't have samples to look at and understand and the whole protocol is very difficult.

Q Well, I'm sorry. All I was -- I'm sorry, all I was getting at was this. You know your comparison sample,

what I apparently mislabeled as control group, but that -- that national survey that you used for purposes of comparison, that -- the blood samples came back -- were gathered as I understood it, from the 1980s and the early '90s. All I'm asking is that different, you're comparing different viruses from 20 years ago to -- to now. Do you see what I'm saying?

A There are certain changes in a viral population that exists. Let's say genotype structure can change, some type structure that looks like that 1-D subtype was more predominant earlier and now 1-A dominates more. But relationship, genetic relationship, between strains cannot change.

Q Okay. So what you're saying is the information in the E-1 and the E-2 envelopes that you've studied, that remains the same even though you're -- compared to the strains from 20 years ago?

A Not all information. Information that defines relatedness between strains that are the device strength.

Q Okay. I'll leave it at that. Let's have lunch.

THE COURT: Okay. Mr. Santacroce?

MR. SANTACROCE: None.

MR. WRIGHT: You cleared that up.

MS. STANISH: Yeah, I cleared that up.

THE COURT: Mr. Staudaher?

MR. STAUDAHER: Nothing further, Your Honor.

THE COURT : Do -- does anyone on the jury have any additional questions for this witness? All right, Doctor, I think there are no further questions for you. Thank you, sir, and you are excused.

All right, ladies and gentlemen, we're going to go ahead and take our lunch break. We'll be in recess for lunch break until 2:30.

Once again, I must remind -- remind you that you're not to discuss the case or anything relating to the case with each other or with anyone else. You're not to read, watch, listen to any reports of or commentaries on this case, any person or subject matter relating to the case by any medium of information. You are not to do any independent research by way of the Internet or any other medium. And please do not form or express an opinion on the trial. If you'd please all place your notepads in your chairs and follow the bailiff and we will see you at 2:30.

(Jury recessed at 1:27 p.m.)

THE COURT: All right, then, 2:30.

(Court recessed at 1:28 p.m. until 2:33 p.m.)

(Outside the presence of the jury.)

THE COURT: Okay. Well, let's talk to Mr. Ham's clients first.

MR. HAM: Thank you, Judge, I appreciate it. Art Ham on behalf of Patty Aspinwall who's here with me.

THE COURT: All right. And my understanding is that Ms. Aspinwall has signed a confidentiality agreement as part of a settlement in a civil lawsuit; is that correct?

MR. HAM: That's correct, Your Honor. And similar to what I understand the other plaintiffs' attorneys have done, I'm obviously wanting -- wanting to just simply assert my objection to my client testifying about any of the confidential things that were contemplated by the prior settlement agreements including amounts. I understand Your Honor has already made rulings in that regard so, of course, we will abide by those rulings and respect them. Just preserving my record.

THE COURT: Okay. And obviously, just Ms. Aspinwall, any private agreement that you entered into, you know, if you're going to be a witness here, the defense has a right to cross-examine you. And so even if you've agreed not to disclose something, if I deem it to be a relevant question from the defense and I order you to answer, then you must answer it in this proceeding. Do you understand?

MS. ASPINWALL: Yes.

THE COURT: Basically by way of private agreement you can't limit a defendant accused right to conduct a thorough cross-examination. It's kind of the gist of it. Basically what the other plaintiffs have been ordered to answer are questions as to the actual amounts they've received either as

a result of settlements and from who they've received those amounts. Anything relating to how much money your lawyers made or other things are not at all relevant and, you know, if you were named with other plaintiffs' amounts, other plaintiffs have gotten in connection with any of the matters, are completely irrelevant. So it's only, you know, what you and your husband, if he was a separate plaintiff, would have received. All right?

MR. HAM: Understood, Your Honor. Thank you very much for doing this.

THE COURT: All right, thank you. And I don't know when you'll be called, but you can just go ahead and I guess wait out there in the vestibule, wherever you had her.

All right. And Mr. Wright, was there something else we needed to do out of the presence of the jury?

MR. WRIGHT: Yes. Regarding anesthesiologist Yee on page of the proposed exhibit introduced at grand jury. I don't mind the blank anesthesiology pages or the actual agreements that he signed.

THE COURT: Okay.

MR. WRIGHT: But the balance of the pages, he testified in the grand jury and literally said I'm not a lawyer but I think the law is -- and then he produced those documents to say what the federal law is on not allowing anesthesia -- CRNAs to perform without a supervising

anesthesiologist over them or something to that effect and then he said Nevada's the same.

MR. STAUDAHER: With respect to that, I can short circuit it -- I think I can short circuit this to some degree. Those pages, because he testified to it, it's the basis of his knowledge as to what separate -- or not separation but what supervision he may or may not have anticipated, contemplated, would engage in, what the limits of that were. To the extent that he relied on something else, I wanted to make sure that any document that he was relying on he had a Court -- at least a Court's exhibit of.

THE COURT: Okay.

MR. STAUDAHER: Now, that's incorporated into that because that's all of the documents that he testified to and he may need to refer to those. But I don't have an issue --

THE COURT: Okay. So we can take off the back part that Mr. Wright objects to and have it available, make it a Court's exhibit and have it available for the witness if he needs to refresh his recollection or refer to something. And as I understand it, the point of this testimony is for the doctor to say I did A, B, and C because I believe it was required by the code of Federal Regulations or I didn't do A, B, and C because I don't believe it was required.

MR. STAUDAHER: Essentially, yes, not --

THE COURT: Okay.

MR. STAUDAHER: -- the substance of any statutes on federal or otherwise.

THE COURT: Okay. And then whether or not it was required or not required is obviously an issue of law and if that becomes relevant we can instruct the jury according to what I think the law is; is that fair?

MR. STAUDAHER: That's fair.

MR. WRIGHT: Yes.

THE COURT: And again, you just want him to refer to the law to explain his actions. Like I thought I was in compliance with the law because this is what I understood or I -- I did this because I tried to be in compliance with the law or what have you.

MR. STAUDAHER: Yes.

THE COURT: Okay. I think --

MR. STAUDAHER: And to that degree, if I understand correctly now, that will be a stipulated exhibit with the exception of those pages which will be a Court's exhibit; is that fair?

THE COURT: Right, starting on what's stamped GJDesai-000470. And is that satisfactory, Mr. Wright?

MR. WRIGHT: Yes.

THE COURT: Without limitation. All right. Yeah, you can just pull it off. It's States proposed Exhibits 65 so the clerk will just remove the back part. She'll make that

Court's exhibit next in order. I think we're on four or five.

MR. STAUDAHER: That's fine.

THE COURT: And then that's available to refresh the recollection of the witness or whatever. Okay?

MR. STAUDAHER: That's fine.

THE COURT: All right, bring them in.

(Jury reconvened at 2:40 p.m.)

THE COURT: All right. Court is now back in session. The record should reflect the presence of the State, the defendants and their counsel, the officers of the Court and the ladies and gentlemen of the jury.

And Mr. Staudaher, you may call the State's next witness.

MR. STAUDAHER: The State calls Dr. Thomas Yee to the stand, Your Honor.

THOMAS YEE, STATE'S WITNESS, SWORN

THE CLERK: Please be seated. If you could please state and spell your first and last name for the record.

THE WITNESS: First name is Thomas, spelled T-h-o-m-a-s, last name is Yee, spelled Y-e-e.

THE COURT: Thank you. Mr. Staudaher.

DIRECT EXAMINATION

BY MR. STAUDAHER:

Q Doctor, what do you do for a living?

A I'm a anesthesiologist.

Q And can you -- before we get into the substance of your testimony, can you give us a little bit of your background and training which led you to become a anesthesiologist?

A Yes. I train at the UC San Diego, that's University of California San Diego anesthesiology residency program. I finished the training in 1993. I passed the Board certification by the American Board of Anesthesiology in 1994. And since July of 1993 I have been in private practice in Las Vegas continuously.

Q And as far as -- and I mean in those -- there's different types of doctors obviously and you're an anesthesiologist. Could you tell us what anesthesiologists do?

A Anesthesiologists, the main job functions are threefold. Number one is to assure a patient's safety in the surgical process. Number two is to ensure patient comfort. In other words, not feeling the pain, the stress from surgery. And the third part of a anesthesiologist's job is to resuscitate a patient if they was to have any kind of negative event during the surgery, during the anesthesia. In that situation the anesthesiologist is in charge of resuscitation.

Q So are you kind of a dependent practitioner in the sense that you -- you basically provide services to other doctors, surgeons and the like?

A Yes. Similar to pathologists and radiologist, anesthesiologist is a consultant service where the primary doctors, such as surgeons or doctors that do procedures, would call upon us to go and provide the assistant service.

Q Now are doctors like yourself the only one who can provide that kind of service?

A Well, the American Board of Anesthesiology would like to think that. In other part of world, usually it's the M.D., the doctors who has had the necessary training that provide anesthesiology service. And in this country there's a -- in some part of this country the service provided many by M.D. anesthesiologists who are Board certified and some other parts of the country it's a team approach with such M.D.s working in conjunction with Certified Registered Nurse Anesthetist, CRNAs.

Q And you said team approach, does that mean that typically the -- the CRNA, if we were talking about them as a Certified Registered Nurse Anesthetist, that they are not completely independent?

A This is controversial in -- in the United States right now. For most of the history of anesthesia practice, anesthesiologists either provide the service themselves or supervise the CRNAs directly. But in recent years, there has been a movement coming from the CRNA community to petition the government and different insurance companies to allow them to

work without M.D. anesthesiology supervision.

Q And I'm going to set that aside for just a second and I want to talk to you about regular physicians, doctors who have gone to medical school, O.D.s or M.D.s, whatever. Can any physician just do the kinds of things you do? I mean, I know that we've talked about Certified Registered Nurse Anesthetists who have special training like yourself, but can just any family practice doctor or anybody just do the anesthesia work that you do?

A That will be very risky.

Q Why would that be?

A For example, there are -- there are subtle inside information regarding the -- the medications, regarding the physiology, regarding the bodies, the brain's reaction to anesthetics that takes years of studying and training to enable an anesthesiologist to do a good job. And I don't think doctors who haven't gone through that kind of training can provide the kind of high degree of professional service that Board certified anesthesiologists can provide.

Q And you -- when you mentioned team approach a while ago with regard to a doctor who has or works with a CRNA, have you ever been in a situation like that where you've worked with CRNAs before?

A In my residency 20 years ago at UC San Diego, as a resident I have worked with, side by side with CRNAs but not

in a supervisory role.

Q So that was back then. From that point to the present, have you ever supervised any CRNAs?

A Back in the early 1990s when I first came to Las Vegas there were a couple summers where when I went to California to do temporary work lasting a few days, and in that setting in this Los Angeles hospital, I have supervised CRNA. But it was just for, altogether probably two days.

Q So you've worked with them in your residency and you had a very limited supervisory role with them in -- at UCLA when you were there doing some -- what was it called?

A It is called -- the Latin word is locum tenens, it's temporary work. And the hospital was Los Angeles Medical Center in downtown LA.

Q Since you've come out to Las Vegas, in the Las Vegas valley, working wherever you've worked, hospitals, clinics, ambulatory care centers, anything like that, have you ever taken on an active supervisory role of Certified Registered Nurse Anesthetists?

A No.

Q Now we're going to get to issues for that -- of that later on, but I want to go through a couple of other things first. With regard to your job when you're in -- you're in the -- if you could just walk through it with me if you can, the kinds of things that you do day to day when

you're dealing with -- I know you do cardiac surgery; is that correct --

A Yes.

Q -- or at least the anesthesia for it? And I know you've gone and you've done endoscopic procedures in an outpatient sort of setting; is that fair?

A Yes.

Q Obviously they -- I imagine they have differences in how you would approach the patients and what you would do. But the preparation in going -- before -- of the things you do before you actually deal with the patient and then how you deal with the patient, is it pretty similar though initially?

A It is similar, yes.

Q And so explain that to us. I mean talking about you've never seen the patient before, you get a call I assume that says, hey, look, I'd like you to come to this facility on this date to perform anesthesia on this patient. Is that kind of how it works?

A Yes. Las Vegas is different from most other cities. In other places anesthesiology groups would have contract with certain hospital and all the surgery or anesthesia procedures will be done by members of that group. Las Vegas is a surgeon request system, where the surgeons or the doctors requiring anesthesia service would call the

anesthesiologist's office either a few days before or -- or just the one day before to ask for a certain anesthesiologist to come to such and such facility at certain time to do certain cases.

So once I get an appointment, I will show up at the hospital or the facility. I would check the anesthesiology instruments, the equipment and anesthesia machine. Basically look over the -- the drugs, especially the emergency drugs. And then I would go interview the patient. I would ask the patient about his physical conditions and whether he had allergies to medications of any kind. Whether he has had problems with prior anesthesia experience. And then I would do a -- a very brief physical exam, see if he can open his mouth wide enough, whether there's any airway problem, listen to his chest to see if he has ongoing pneumonia or bronchitis or asthma attack and listen to his heart. Then I would probably start the IV on the patient, the intravenous.

And then I would go back to the operating room to get the anesthesia equipment and the machine ready and -- and then after the nurse has brought the patient into the operating room, we would put the monitors on the patient and -- and start giving the patient anesthesia.

Q So let's -- let's break down that a little more. So you -- you described actually putting your hands on the patient, I mean listening to their heart and their lungs and

so forth. Does that matter? Why would that be important?

A This is particularly important if a patient -- if a patient was coming from -- from home, from outpatient setting where he hasn't been examined by any physician that day or recently. If a patient had been in the hospital for a while, for example a patient in the hospital for a heart attack and is about to go for heart surgery, that patient has had exhaustive examinations. But for a patient coming in fresh from home, I frequently would be the first M.D. to see that patient that day. So if there were new development, for example, if the patient was having an asthma attack, wheezing, I have to listen to the patient to find out. And because that -- that might change my -- my treatment course. I -- I may cancel the case or give medication to treat the asthma first.

Q So you have the ability to cancel the case yourself?

A Yes.

Q So I'm the surgeon, I've got a patient, I've got them at the hospital, they're ready to go, they've been -- gone through all their preoperative stuff, get back into the room and you don't like what you see.

A Yes.

Q You can say we're not doing it, we're not going forward.

A Yeah. I've canceled many cases in my 20-year

career.

Q Well, what if I as the surgeon was -- or the surgeon said, nope, you're going to do it anyway?

A Well, I can refuse.

Q Have you been in situations like that where you've -- obviously you said you've canceled cases, but where the surgeon may have -- or the person doing the procedure may not have been happy that you canceled the case?

A They -- they by and large, they would respect -- respect my professional opinion. If I say it's unsafe to proceed, the surgeons usually listen to me.

Q Have you ever been in situations where the -- the surgeon or whomever dictates to you how you do your job?

A There -- there were a couple that tried but, you know, it wasn't pleasant, the discussion.

Q So if they said, for example, you know, you're going to do it this particular way, use these particular drugs or not use these drugs, would that be sort of stepping into your area of expertise?

A Yes, I would be very offended. And when that did happen in my career, you know, the discussion was very short and we, you know, I stopped the case anyhow. Because ultimately, whether the case proceed or not, it's up to me, it's not up to the surgeon.

Q Now, even though you're in the room, whatever

facility it is, and there's a physician who is doing a procedure, can -- who's in charge of the patient at that point? Is it you or is it the doctor? Are you both in charge? How does it work?

A I would say it's me because in most surgical cases I would be more familiar with maintaining patient safety and if something was to go wrong, I will be the person resuscitating the patient, not a surgeon.

Q Have you had situations occur where if something unexpected happened, even on a minor procedure, and you had to intervene in -- in kind of a big way?

A Yes.

Q So that's not unheard of?

A No.

Q Now as part of the -- when you go through and you have somebody come in and you do this evaluation, you say you typically do that out someplace and then the patient -- you go ready yourself and the patient's brought back to the room.

A There's often a preop holding area where we interview the patients.

Q Have you ever been in a situation where you don't do that at all until the patient just rolls in the door, you ask them a few questions, put them to sleep and you're done or -- or anything like that?

A That has happened on rare occasions.

Q Okay. Would that be something that would be reasonable on a regular basis to not spend that kind of time with a patient?

A If I -- as long as I had the time and opportunity to interview and examine the patient, the location's not as important. The importance the -- the importance is the process.

Q So when you say interview, you would still go through the things you talked about but it might be in the actual procedure room.

A Yes.

Q Now, you know what a history and physical is, do you not?

A Yes.

Q Is that something that you do or is that something that needs to be done before the patient has a procedure?

A It needs to be done by the admitting doctor or the surgeon.

Q So if one is done, is that something you incorporate in asking questions of the person you're about ready to do a procedure on?

A Yes.

Q And putting them to sleep so to speak?

A Yes.

Q Now when we talked about -- or of the CRNAs and your -- you had some -- some limited information -- or involvement with them in a supervisory capacity and then you worked with them you said I think. In those situations you've also mentioned it again, a team approach. How or what is the interaction between -- in the situations you've been involved with, with a CRNA and the doctor? Meaning you as the doctor, not maybe the -- not the doctor doing the procedure?

A The team approach is this. The CRNA would go interview the patient preop and would come to me to give a very brief report on the patient. If there was no difficult issue I would tell the CRNA to proceed. If there was a problem, I will go interview the patient myself to go over the particular points. And then the CRNA will bring the patient into the room. I -- I think the standard that we practice with is an M.D. should supervise between one to -- at most four CRNAs at any given time. And so if I wasn't busy --

MR. WRIGHT: I'm going to object to the relevance of this.

MR. STAUDAHER: The relevance of this --

THE COURT: Overruled.

THE WITNESS: So I would be in the same room to basically look over the shoulders of the CRNA as he proceed to give the patient anesthesia. And when the case is underway

and everything's going smoothly, I may step out of the room and go check on the other CRNAs.

BY MR. STAUDAHER:

Q So there's critical times that you feel that you would have to actually be in the room with the CRNA?

A Yes.

THE COURT: Is -- do you do that all the time or just in days when you're not that busy and -- or where you don't have, you know, your own patient or whatever?

THE WITNESS: I've had very limited interaction with CRNAs, like I said.

MR. WRIGHT: I object, Your Honor.

THE COURT: All right. Can I --

MR. WRIGHT: He hasn't done any of this.

THE COURT: -- can I see counsel at the bench?

(Off-record bench conference.)

THE COURT: All right, Mr. Staudaher, you may proceed. You need to focus in to get to this case.

MR. STAUDAHER: Right.

BY MR. STAUDAHER:

Q And I'm just talking about your involvement. So is it fair to say that at least your direct involvement with CRNAs in the past has been -- and not talking about any national standards at this point, but that you felt that it would be sort of in person supervision; is that fair? You had

to be there when that -- when things were going on?

A Yes, but I have to stress this is not personal experience only. Just like when we practice medicine, there are some things that we have to do. And this is not out of my -- my own hypothetical thinking. This supervision that the M.D.s see -- has to be in the room looking over the shoulder of a CRNA. When things are stable I will walk to another room to look over the shoulder of the other CRNA --

MR. WRIGHT: Objection, this is all hypothetical.

THE COURT: That's -- that's sustained. We need to focus --

MR. WRIGHT: And he's not an expert.

THE COURT: -- in on specifics.

MR. STAUDAHER: So I'll move on to a -- to a different area.

THE COURT: Okay.

BY MR. STAUDAHER:

Q Are you familiar with the drug propofol?

A Yes.

Q Does it have another name?

A Diprivan.

Q So same name -- or two different names for the same thing?

A Yes.

Q What is it?

Q Now I want you to tell me how you went about identifying and collecting the samples of those individuals on that list.

A Our office of epidemiology identified the patients that had procedures on the two dates in question and they set up appointments to have the people come in to have their blood drawn or they had us contact the commercial laboratories to see if there were samples that were available.

Q And you did that for all of the patients on those two dates, correct?

A That's correct.

Q Let me see if I can get this on here. This is a chart of all the people infected on September 21st, 2007. Do these names comport with the list that you compiled and tested?

THE COURT: Are you able to --

A I'm not sure what comport means.

THE COURT: Are you asking if they have the same names?

MR. SANTACROCE: Yes, sorry.

THE COURT: Are they the same names?

A Yes, they are.

BY MR. SANTACROCE:

Q Those are the same names?

A Yes.

Q So there's nobody that's on your list that's omitted from this particular chart, correct?

A Can you rephrase -- got double negatives in there. Can you rephrase that or what -- I'm -- I'm -- tell me again what that question was?

Q The names on this chart, which you've said are the same as the names on your list, those are all the people that were infected on this particular date, September 21st, 2007.

A So I only did the laboratory testing component of this and -- and I can't really speak to the relevance of whether or not these people were infected.

Q I'm not asking you to speak to the relevance of it, I'm asking you merely to look at your list and look at this list and you said they were the same. And I'm asking you were all -- those all the people on that date that were infected that you tested?

MS. WECKERLY: Objection, calls for speculation. There's no way this witness can answer that.

THE COURT: Yeah. I think she's already said that it's beyond the scope of her knowledge or her role.

MR. SANTACROCE: Well, she already said that that was all the people that were infected on that date or they would have appeared on your list.

MS. WECKERLY: No, that's incorrect.

MR. STAUDAHER: Your Honor, may we approach?

MS. WECKERLY: She said those people came in --

THE COURT: Okay.

MS. WECKERLY: -- and were tested.

THE COURT: Right. That was sustained. Maybe if you could ask the question a different way. Of the people who came in are those all the people that were infected?

BY MR. SANTACROCE:

Q The people that came in, were these the only people that were infected?

THE COURT: Are you able to read that?

THE WITNESS: Yes.

THE COURT: Okay.

A The laboratory, as a laboratorian, I don't identify who's infected. I only identify what the test results are.

BY MR. SANTACROCE:

Q Well, isn't that the same thing? You got the test results back and you would determine if they were infected or not.

A The lab results are one component. The -- the -- the -- I don't interpret the lab results. So I have the lab results that come in and that's not within my scope.

Q Ma'am, did you compile this chart?

THE COURT: Okay. Do you mean like you don't look at

the numbers on the lab results and say, okay, this means somebody's infected or that means somebody isn't infected? That's a conclusion that's made by some -- someone else?

THE WITNESS: Yes.

THE COURT: Okay.

BY MR. SANTACROCE:

Q You do -- you did compile that chart that you testified to, correct?

A I did compile the chart.

Q And you obtained information in order to compile that chart, correct?

A That's correct.

Q And the information you compiled were these individuals on your chart and which is shown on the monitor, were infected with hepatitis C, correct?

A The information on the chart listed the test results for the people who had testing performed.

Q And those people had hepatitis C.

A They have positive test results.

Q And if there were any other people on those dates that had positive test results, they would appear on your chart, correct?

MS. WECKERLY: Objection, Your Honor.

MR. STAUDAHER: Objection -- I'm sorry.

MS. WECKERLY: That's not correct.

THE COURT: Okay. Rephrase your question.
BY MR. SANTACROCE:
Q If there were any other people that came in and were tested and tested positive, they would be on your chart, correct?
MS. WECKERLY: Objection.
THE COURT: Overruled.
BY MR. SANTACROCE:
Q You can answer.
THE COURT: According to the results that you had received.
A Could you repeat it again, please?
BY MR. SANTACROCE:
Q Yes.
THE COURT: According to the results that you had received, if someone tested positive, would you have included that on your chart?
THE WITNESS: What -- it depends on where the testing was performed so --
THE COURT: Okay. All right.
THE WITNESS: -- if the testing was performed at our facility or that we had collected the samples and were tracking it, then yes, it would be on the list.
BY MR. SANTACROCE:
Q And you testified that you tracked all the

people on those dates, correct?

MS. WECKERLY: No. That's -- objection --

THE COURT: Okay. That's sustained --

MS. WECKERLY: -- that misstates her testimony.

THE COURT: -- that misstates the evidence.

BY MR. SANTACROCE:

Q How did you get a list of the people that were treated at the clinic on September 21st?

A I did not receive that list.

Q Okay. How did you receive the names that appear on this chart or on your chart?

A That list -- that information came from our office of epidemiology.

Q So you were just given a list of names from the office of epidemiology and you went out and collected samples and sent them to the CDC, correct?

A We set up -- our office of epidemiology set up appointments with people that needed to have to come in to have testing performed.

Q And is there a list of those people that came in and were tested on those dates?

A Yes, there is.

Q And do you have that list?

A Yes, I do.

Q Is it fair to say that more people came in and

were tested than are on your chart?

A The chart that's this exhibit?

Q Yes.

A Yes.

Q And is it fair to say that more people on July 25th, 2007 came in and were tested than appear on your chart?

A Yes.

MR. SANTACROCE: I have no further questions. Thank you, ma'am.

THE COURT: All right. Thank you. Redirect.

REDIRECT EXAMINATION

BY MS. WECKERLY:

Q Can the health district force people to come in and give a blood sample?

A No, they cannot.

Q And can the health district release information about people without them agreeing to it?

A No, we cannot.

Q And so when we have these names, these people agreed to have their names released.

A Yes, they did.

Q Okay. If someone didn't agree, the health district doesn't release the name.

A That's correct.

Q And no one knows who it is. Well, no -- that --

that name isn't given to law enforcement or anyone else; is that fair?

A The laboratory did not.

Q If the health district sent out a letter to someone, they're not required to come in and provide a blood sample; is that right?

A That's correct.

Q If the health district sent a letter and it never -- you know, someone moved and it never even got to the right person, those people would be lost to follow up; is that fair?

A That's correct.

Q Thank you.

THE COURT: All right. Any re-cross?

MR. SANTACROCE: Yes. No, never mind.

THE COURT: All right.

MR. SANTACROCE: I'll pass the witness.

THE COURT: Mr. Wright, any recross -- or Ms. Stanish?

MS. STANISH: No, Your Honor. Thank you.

THE COURT: Do we have any juror questions for this witness? All right. I see no juror questions. Ma'am, thank you for your testimony. Please don't discuss your testimony with any other witnesses and you are excused at this time.

THE WITNESS: Thank you.

THE COURT: All right. State, call your next witness.

MR. STAUDAHER: State calls Yury Khudyakov to the stand.

YURY KHUDYAKOV, STATE'S WITNESS, SWORN

THE CLERK: Please be seated. And please state and spell your first and last name for the record.

THE WITNESS: My name is Yury Khudyakov, Y -- okay.

THE COURT: You can sit.

THE WITNESS: Y-u-r-y, K-h-u-d-y-a-k-o-v.

THE COURT: Okay. And you have sort of a soft voice so that black box right there is a microphone so just kind of try to speak towards it if you would. All right?

THE WITNESS: I'll try.

DIRECT EXAMINATION

BY MR. STAUDAHER:

Q And Mr. Khudyakov, what do you do for a living, sir?

A I work at Center for Disease Control.

MR. SANTACROCE: I can't hear, Your Honor.

THE COURT: Yeah. Sir, you do have a very soft voice so just kind of try to speak loudly and if it --

A I work at the Centers for --

THE COURT: -- that's good.

A -- Disease Control.

BY MR. STAUDAHER:

Q In Atlanta?

A Yeah, in Atlanta, Georgia.

Q Okay. And what do you do for the Centers for Disease Control?

A I'm team lead of a laboratory of molecular epidemiology and bioinformatics in laboratory branch division of viral hepatitis.

Q How long have you done that work?

A I was associated with CDC since 1991 and in charge of this laboratory since 2005.

Q Now, in the -- in the laboratory, I mean, I assume you do various things. But to get to what you're doing -- what you do in the laboratory, we're going to get to that in minute. Can you tell me about your background and training which led you up to the point where you're working at CDC?

A All right. I received my Masters Degree in genetics from Novosibirsk University in Russia. And then I received Ph.D. in molecular biology of viruses from Ivanovsky Institute of Virology in Moscow Russia. Then I was doing postdoctoral studies at the Centers for Disease Control as a national research counsel fellow at the Academy of Science of the United States. And after that I received an offer to join the branch as full-time employee, which I did and now I work in this capacity.

Q Okay. So when you said the branch, what branch is this again?

A We kind of changed. When I joined it was hepatitis branch, now it is division of viral hepatitis since early 2000.

Q So that's -- is that your main focus then, is hepatitis research?

A Yeah. That study I did, only viral hepatitis in this branch. It started as a branch of viral hepatitis in our division of viral hepatitis. We deal only with diseases, viruses causing viral hepatitis.

Q So in the laboratory, I mean, what kind of things do you do exactly?

A Currently?

Q I mean, yeah. What do you do in the laboratory as far as the work involving -- let's -- let's narrow it even further, this particular case. You know why you're here today, correct?

A Okay.

Q Okay. Why -- why are you here as the person involved in this particular matter?

A Right. We study genetics in molecular evolution of hepatitis viruses and different epidemiological settings. We develop molecular approaches and use molecular approaches to track viral infections, hepatitis viral infections, and

disease. And everything what we do is to help protect people in the United States and globally from -- from viral hepatitis.

THE COURT: So you just specialize in hepatitis?

THE WITNESS: Yes.

THE COURT: Okay.

BY MR. STAUDAHER:

Q Can you tell us what hepatitis is?

A Hepatitis is a liver disease and we deal with only liver disease that's caused by viruses.

Q Okay. So --

THE COURT: Okay. And I'm -- I'm sorry to interrupt you but can you -- some of the jurors are having trouble understanding you because you have a low voice and then with your accent. So could you try to speak more slowly? Plus, you're using a lot of complicated long words. I was laughing because that poor lady over there in the orange top will have to type all of this and spell it correctly at some point. So could you speak a little bit more slowly --

THE WITNESS: I will.

THE COURT: -- for us? Thank you sir.

THE WITNESS: I'm not sure it's going to help.

THE COURT: A lot of us are unfamiliar with some of these words that you're using and so if you could just, you know, say them a little more slowly. All right.

A All right. I -- we'll learn -- we study viruses that cause hepatitis or liver disease in humans. And those viruses named by letters of alphabet, A, B, C, D or delta, E and in laboratory where I work we learn about genetics of those viruses. We study their primary structure and see how that primary structure, how those viruses, genetic material in this virus changes in different epidemiological settings. And all this done in order to track viruses. We want to understand how viruses disseminate in human population. We want to understand how those viruses cause disease and why.

BY MR. STAUDAHER:

Q So when you study the virus, you said you basically look at the genetics of the viruses; is that right?

A Yes.

Q So if -- I mean, obviously you're at the Centers for Disease Control. You're -- do you deal with hepatitis outbreaks, things like that in your -- in your genetic analysis?

A Yeah. Transmissions is -- that's how virus disseminates among humans. So this is actually a core activity in my laboratory. That's what we study.

Q So basically there's an outbreak somewhere, they send samples to you to see if the genetics matches up; is that fair?

A Yes, but this usually goes through a

epidemiology program. I -- I never directly involved in acquisition of specimens or doing field research. I'm involved only when specimen's already identified and given to me for molecular analysis.

Q So if I understand you correctly, you're not involved in any of the figuring out what happened, but you're just there to say, okay, I've got a sample and another sample, do these relate in some way, is that --

A Yes, that's true.

Q -- I mean that's really dumbing it down for me here so --

A Yes.

Q -- I want to make sure we have it where everybody in the room --

A That is correct.

Q -- that's not at your level. Okay?

A That is correct.

THE COURT: Okay. I think it's fair to say most of us or none of us are at your level so --

BY MR. STAUDAHER:

Q So -- so you're in the laboratory and you get a sample. And how does the sample come to you?

A They usually arrive to our reference laboratory, then they be aliquoted for me and we receive aliquots of those specimens.

Q Is this sort of a structured process that occurs? The samples come in, they're handled a specific way and then they eventually make their way to you?

A Yes, that is very structured process, right.

Q In this -- and I'm going to bring you to this case specifically why and we may ask you some general things as we go. But in this particular case, is that what happened? Did you get samples in that you needed to look at genetically and to see if they were related or not?

A Yes. Once specimens arrive to me we usually write a note that those specimens positive for whatever pathogens we're looking for. In their [indiscernible] can go in different ways. It may be serological. Let's say that in certain specimen there are antibodies. Or it may be molecular. When we know the genetic material of the virus can be found in the certain specimens. Only those specimens I usually receive.

Q Okay. So they've been tested somewhere and --

A Yes.

Q -- it shows that there's virus?

A Yes.

Q And it's hepatitis -- it's a hepatitis C, at least it's positive for that -- for the antibodies for the virus; is that fair?

A When it's hepatitis C we usually receive

specimens that are positive for the presence of the virus.

Q Okay. So you've got a sample that you know has been previously tested somewhere --

A Yes.

Q -- and is positive. So they just don't send you samples that are not positive; is that right?

A Usually not. Only in some occasion -- on some occasions.

Q In this case, did you receive any that weren't already previously tested as being positive?

A Yes. We received several specimens in this case too. And there were, I believe, all previously tested, otherwise I wouldn't receive them.

Q That's what I meant. The ones that came in to you that you actually see in your laboratory, those have all been previously kind of sort screened?

A Yeah, they were already screen tested.

Q Okay. So you got -- you know you've got these samples that are positive for the hepatitis virus, a specific hepatitis virus at this point?

A Yeah. At this point we already know that it is hepatitis C or B or A because we use different approaches to look at genetics of those viruses --

Q In this case --

A -- I need to know.

Q -- I'm sorry to talk over you.

A Sorry, I was talking over.

Q In this case, the hepatitis type that you received, was it A, B, C, what was it?

A It was C.

Q So all the samples you received in this particular case -- and you knew these were coming from Las Vegas, correct --

A Correct.

Q -- from the health district here? That came in, had already been screened, serologically shown to be hepatitis C positive.

A Yes.

Q So you get the samples into your lab. What do you do with them?

A First we need to extract nucleic acids from serum specimens because genetic material of viruses is molecular of RNA, which is nucleic acid. Once we extract this RNA, we need to convert it in -- into complimentary molecular DNA because [indiscernible] approaches, which we use, can use only DNA molecules. Once we converted this into complimentary DNA, then we run preliminary chain reaction on those specimens. In other terms loci, those molecules of DNA. But we don't amplify entire, just each and every molecule of DNA, only those that's specific for this virus, anyone specific

with certain region within the genome of hepatitis C virus. Once we --

Q I'm -- I'm going to stop you there for just a minute because I want to make sure that everybody follows you along. So let's go back just a little bit. Sample comes in, you're going to be -- it's -- you said it was an RNA virus?

A Yeah, hepatitis C is positive single-stranded RNA virus.

Q Okay. So RNA, does that stand for ribonucleic acid?

A Ribonucleic acid.

Q Just like DNA is deoxyribonucleic --

A Deoxyribonucleic acid.

Q And the -- the court recorder is taking down all the words -- I mean it's being recorded, so it's really important and I have been guilty of it right now with you on the stand. If you can just wait until I finish my question. I'll try to wait until you finish your answer. Okay?

A Sorry.

Q Thanks. So we've got the differences. We've got DNA and we've got RNA. What -- what's the difference between the two of them essentially?

A Chemically it's presence or absence of one oxy group and their ribose and then in the base, nucleic base, there is also no [indiscernible], there is only uracil.

Q So is also RNA -- is it basically --

THE COURT: Well, that clears it up.

BY MR. STAUDAHER:

Q Besides the sugar molecule, sugar residue that's on the -- on the actual nucleic acid, is it -- the RNA is basically a template, is it not, for the production of the proteins itself?

A In human genome DNA is a genetic material that stores all information. Then it be transcribed into RNA and then RNA used as a template to build proteins. In this case, virus already has RNA molecule that directly can be used by ribosomes as a template for protein synthesis.

Q Okay. And the ribosomes, are those the things within cells that actually read that code on the -- on the RNA to make the protein?

A Yes.

Q So they spit out an actual protein based on that sort of -- sort of code, so to speak; is that right?

A Yes. It is an organelle. There are numerous, many, many of them in the inside of cells and they translate RNA into proteins.

Q Okay. So in the -- in the virus that we're talking about here, hepatitis C virus, you said was an RNA virus so it doesn't contain any DNA.

A It does not contain any DNA.

Q So can the protein be made directly from the RNA then --

A Yes.

Q -- as sort of a template?

A Yes, it can. Protein can be done directly from our genomic RNA of this virus.

Q Now, the proteins that are made -- I mean does the -- the virus itself, is it a living organism by itself? I mean is it able to replicate without any help at all?

A Virus by itself, it's just simple genetic information packed into proteins, that is it. And it starts replicating itself only when it get inside of cells, living cells. Then it use machinery from those living cells to replicate itself.

Q So the cell that it infects, it essentially takes over the machinery of that cell to produce more of its cells essentially.

A Yes.

Q You've mentioned that it's the naked sort of DNA material, the genetic material and it's -- and it's basically encapsulated in some protein thing. What was that?

A No. In this case it's not DNA, it is RNA molecule that --

Q Did I say DNA? I'm sorry.

A Well, that -- yeah, encapsulated into three

proteins, three structural proteins which generate together with this genetic material viral particle.

Q So the viral particle -- we're talking about the thing that's the infectious agent. If I understand you correctly, it is encased in -- in these three proteins, these three structural proteins and the genetic material, the RNA is within that. Like -- like essentially the inside of a piece of fruit or something; is that correct?

A Yeah, that's correct.

Q Okay. So that viral particle then goes into a cell, infects the cell, takes over the cell's machinery and makes more of itself and propagates an infection in someone.

A That's correct.

Q Now, in this particular case, you said that you received the -- the samples that are positive and that you went through a -- did I hear you correctly, an amplification process to try and get the viral DNA -- or RNA in this case into a larger quantity so you could look at it?

A Yes. We used amplification process, which called polymerase chain reaction.

Q Is that also called PCR?

A Or abbreviation is PCR.

Q So if we hear that term, that's what it means?

A Yes.

Q So once you get this -- this bulked up genetic

material, what do you do with it?

A Once we get this material amplified in the form of amplicons, because we're amplifying certain region from the virus. Then we detect -- I determine primary structure of this genetic material which we amplified.

Q Now the RNA template that you start off with, how many proteins does that typically make for a virus, for a hepatitis C virus?

A Each individual actually infected with significant population of the virus. It's maybe between 10 billion to one trillion viral particles circulate in each and every infected individual. But what -- but then we don't deal with like entire blood from the patient, we deal with small aliquots, usually 200 microliters of serum specimen.

Q And just for those of us who don't understand that, an aliquot is a -- is just a sample of it; is that correct?

A Small -- small amount of serum specimen.

Q So you work with it, you take a little small serum specimen and you do this amplification of it and then you do your genetic analysis?

A Yes, but first we need to extract nucleic acid.

Q So you get your -- your nucleic acid, then you do the amplification, and then you do your analysis.

A Yes.

Q So to -- and trying to make it as easy as possible. We end up with, if I understand you correctly, a template that you then -- does it -- you translate it into the proteins that you talked about so you can look at the proteins or are you looking at the genetic sort of template itself?

A No, we're looking at the template itself.

Q So you said that there was a specific area that you looked at.

A In course of investigation, we usually look at two different regions.

Q And what are those and why, if you would?

A Yes. Hepatitis C virus genome is about 9,500 nucleotides long and it contains long codon region that encodes polyprotein, which eventually cleaved into set of 10 different proteins. And those -- and those proteins have different degree of diversity in -- in the host. And we use the most current one of the most conserved regions coming from gene NS5B that encodes preliminaries in order to identify genotype of the virus.

Q Okay. I'm going to stop you there for just a minute because I want to go back. So if I understand you correctly, you've got the template, the RNA template. That codes for this 9,005 -- did you say 9,500 base pairs?

A Nine thousand five hundred approximately.

Q And base pairs are this --

A No base pairs, nuclectides.

Q Nucleotides.

A Because it's not double-stranded.

Q Nucleotides are -- are what? Are they standard four building blocks, the guanine, adenine, just like those things?

A Yeah. There are four building blocks we call -- just -- it would be easier if we just call them by letters of alphabet, it's A, T, G and C.

Q Okay. So --

A Adenine, guanine, thymine and cytosine.

Q So you've got those lined up into various combinations and you mentioned a coding region. Is that the area where an actual gene sits that it produces -- well, you've got a gene that makes a protein.

A Yeah. Hepatitis C virus contains -- let's put it this way, one large giant open region frame that encodes all proteins together. So to some extent it can be viewed as one big gene and the product, which translated about 3,000 amino acids long, eventually be enclaved into 10 different proteins.

Q So one big protein called a polyprotein, meaning multiple --

A Yes.

Q -- gets produced and then some enzymes or

something come in there and chop it up into the separate 10 pieces, 10 different proteins?

A Yes. It is a combination of host proteases and viral encoded proteases that cleave this polyprotein into 10 different mature proteins.

Q Now some of those proteins make up different parts of the new virus, correct?

A Yeah. Three of those proteins that encoded the internus of the polyprotein core or nucleic acid. Nucleic acid actually encapsulates genetic material in itself. And then on top of these, there are two envelope proteins, E-1 and E-2. All three together called structural proteins.

Q Okay. So let's talk about the E-1 and the E-2. We've got two proteins that make up the -- the basket that the genetic material is in, right?

A Right.

Q So now when a virus is in a person's body, does an immune response typically happen? Like somebody tries to make antibodies to that virus to get -- to get it out of there.

A Yes. Basically all proteins of hepatitis C virus recognized by immune system. Those three, which I just mentioned, structural proteins as well as non-structural proteins. But only structural proteins contain neutralizing antigenic epitopes.

Q So when you say neutralizing antigenic epitopes, we're talking about the part that body recognizes, correct, as being foreign?

A Yeah. The small regions, protein regions are recognized by body to generating in the response antibodies in this case.

Q So your body will generate an antibody against the virus and it's really looking at that portion to make it; is that right?

A Yes.

Q Okay. So -- so in the case that you, I guess, that you said you mentioned the word conserved, you look at the -- one of the more conserved areas and there's areas that are less conserved; is that right?

A Yes, that's true.

Q And does conserved mean that the genetic material does not change very often versus a less conserved area where there were mutations might change the genetic material more often?

A Yeah, that's true.

Q Is that fair? So the areas that you look at are a combination of a conserved region where it doesn't change, coupled with an area that does change rapidly; is that fair?

A Not exactly. I actually mentioned men that would have two different PCR reactions. This one, which I

mentioned from an S5B region, that actual entire region is conserved and we use this region when we sequence that to identify genetic type of the virus. But then there is another region that comes from structural area when we're amplifying a small piece of E-1 gene and E-2 gene. Yes, that region composed a relatively conserved part and very variable part.

Q Okay. So we've got actually two things you're doing. You're looking -- first you've got to type the virus, so you look at the NSB5 region?

A Right.

Q Which is highly conserved, meaning it doesn't change; is that fair?

A It does change but it is conserved because the most conserved region would be [indiscernible] region.

Q Okay. But it doesn't change nearly as rapidly as anything else.

A That's true.

Q So when you look at that and you looked at the study samples that came in, were they all of the same type?

A Yes. That's actually part of the protocol because we -- if they would be of different type we wouldn't proceed with the second part of finalizing quasispecies. All of them were of the same type.

Q So the type was that -- well, tell me, what type was it?

A 1-A.

Q So in the United States, are there different areas of the country that are predominately infected with different types of the virus?

A Yeah. There are six types of the virus, seven types of the virus. One was recently added. And in doing that it stays the most dominant type is -- is type one. And types also subdivided into subtypes and they usually identified by letters of alphabet. So in this case it was subtype 1-A. But then in other also frequently found in the United States is subtype 1-B.

Q Okay. So 1-A and 1-B are predominant in the United States?

A That's correct.

Q In this region of the country, the western half of the country, what is predominant? In this area -- well, let's even narrow it even further. In the Las Vegas, Clark County, Nevada area, what's the area -- what is the type that is traditionally predominant?

A You said traditional because it most probably could have changed.

Q Sloppy wording on my part.

A Yeah, it most probably 1-A.

Q So 1-A is what we would expect to find?

A Yes.

Q And you found that in all of these?

A Right.

Q Is that correct? Now let's move away from just the typing. So we've got a hepatitis C virus that's typed by you through the genetic sequencing as being 1-A --

A That's correct.

Q -- is that fair? Then let's move to the E-2 protein that you had -- that has the hypervariable region that you looked at as well.

A That's true.

Q So -- and what did you call that hypervariable region?

A RNA preliminaries of the hepatitis C virus has no [indiscernible] mechanism so it generates a lot of errors when it replicates the genome. And there are different regions actually like Himalaya, there is a different -- a different rate. In one of the regions, which is located at the internus or five prime end of E-1 or E-2 protein antigen, is the most variable region. That's why we call it hypervariable region.

Q So you've got a -- on a -- on a region that we're talking about, one end is called a three prime end and one's called a five prime end. Is that what you said?

A All nucleic acids actually named this way. It just direction from five prime end to three prime end.

Q So that just tells you on what end of the thing you're on.

A Yeah.

Q So -- so on the end of that -- that region, you've got one that -- that actually varies quite a lot; is that fair?

A That's true.

Q And you said that it was because essentially there are -- there's no proofreading mechanism for the preliminaries which is an enzyme that makes the new template, correct?

A Yeah. RNA dependent, RNA preliminaries usually have no proofreading mechanism.

Q So that means that if there's an error made in the replication process, it's not going to get corrected; is that fair?

A That's correct.

Q So because it doesn't get corrected, that means that if you have a lot -- you mentioned in a -- in a person you might have a trillion, billion, trillion, hundred billion cells, viral particles being produced on a regular basis daily in a person; is that fair?

A Yeah, that's fair.

Q So if we've got -- if we multiply the no proofreading, meaning the errors are occurring and not being

corrected, with how many viral particles are being produced in a body, would that mean that at least the potential for mutation and change of the virus would be high?

A Oh, very high.

Q You mentioned a term quasispecies. What is that?

A This actually a term that was hijacked from molecular evolution and used and corrected by virologists, but now it's kind of stuck with virologists. It identifies interhost variance of the virus.

Q So when you say interhost variance, does that mean that there is a host, meaning a person, let's say I was infected with the virus and that just by virtue of the fact that it's in me and replicating and we -- and going through all these things we just talked about, that there might be some drift or moving away from the genetic makeup of the original virus that was infected over time.

A Yeah. Any person who infected with hepatitis C virus, infected was very, very big population of different genetic variance. Even if it starts from single -- single molecule, if ever it does, it still would end up over course of infection become big population of the virus with many, many variance, genetic variance. Calculations have been made that indicate that basically each and every single point mutation exists in viral population every day in each and

every individual who infected with hepatitis C.

Q So you're telling me there could be -- there could be a point mutation on each one of the replicated DNA -- or excuse me, RNA templates for every one of those produced viruses in a person that's produced everyday and that could be in the hundreds of billions?

A That's true, but not all of them would be viable.

Q But of those that would be viable, there still would be a whole bunch of them.

A Oh, yeah.

Q Now does -- again, does that mean that if I'm infected on today, that a week, a month, six months from now, that if you sampled my blood and -- and I had an active infection still and looked at the genetics to see how closely related those are to even the -- the one that infected me initially, that there would be some change over time getting further and further away from that original virus or mixture?

A Yeah, you would expect that.

Q So when you say quasispecies, does that mean that any person walking around on any given day has multiple variance of the virus within them?

A That's what it means.

Q So when you do your genetic analysis and you're trying to figure out relatedness between samples, for example

that were sent to you, if they were related at all, how do you go about figuring that out?

A Yeah. That's a very difficult task for such a very difficult virus, which changes so much. We most probably in that frequently not detect that two people infected with the same virus. And the way we do it, we kind of fingerprint virus. We use this hypervariable region one and then we sample population of the virus from each and every individual. And usually we -- at that time we use technology that allow -- allowed us to let's say detect 50, 100, maybe 200 variance from each and every person.

So it's more sample from all variance that circulate in each and every individual. But still, it is sample of this population. Once we sample those variance, we detect -- we determine their primary structure of each and every variant and then we compare them.

Q Okay. So when you did that in this particular case, I mean you've got these different samples, did you compare those to each other for example, to see how related each one was to itself?

A Yes, we did. And there are numerous -- different approaches to compare.

Q And beyond that, beyond just comparing them to -- to themselves, did you look at any other populations to compare it to to see how related they might have been to maybe

a large study that had been done in the previous times?

A Yes, we did this comparison, though it's not necessary.

Q Okay. So you -- what was the reason then if it wasn't necessary?

A Oh, because this assay actually wasn't developed for over 15 years. We already know what is genetic originated within individual host and when viruses -- and when people share the same virus, what would be genetic diversity of that population. Those -- that information already available to us.

Q So the assays that you use are basically -- have been vetted for 15 years, people using them day in and day out. Is it pretty universally accepted that those techniques, those methodologies that you used were universally accepted in the scientific community?

A Yes. People though may use different regions of the genome, different laboratories.

Q But the methodology --

A Methodology is -- yes, methodology would be in -- about the same.

Q Now, I want to move forward a little bit. So you've got -- got these samples that you're going to compare to each other, correct? Now you mentioned -- or at least I mentioned, I asked you and you said you did, but there was

this other population that you also compared to. What was that?

A We usually use specimens from the Third National Health and Nutrition Examination Survey. During that survey we were involved in genotyping of hepatitis C virus. Those specimens were available to us and we actually analyze quasispecies variants from those patients.

Q So you looked at the same kind of thing, the quasispecies, meaning all the different kinds that are in -- in a single individual at any one time. You compared -- those were compared in a large study so these people were positive too.

A Yes.

Q How many people were in that -- out of that study?

A Maybe --

Q That were positive.

A Yeah, maybe not accurate down to single digit, but it was I believe 270 HTV positive persons who we started and from 109 we obtained population of quasispecies.

Q So 109 out of the -- all of the ones that were sampled that were positive that had the quasispecies that you could analyze.

A Yes.

Q Did you have a database or anything at the CDC

that it contained even more comparison samples that you might use?

A Yes, we do because we [indiscernible] specimens let's say from [indiscernible] status or when we started let's say clinical specimens in the course of our research studies. Yes, we have this database.

Q Did you compare it to those as well, the samples that you received?

A Maybe not -- not in this case to all of them but we compared to -- to significant -- to basically many of them, yes.

Q So a large portion of the external database beyond the NHANES study that you had talked about?

A Yes.

Q And I said NHANES, it's the acronym --

A Yes.

Q What was it again? It was National --

A National Health and Nutrition Examination Survey.

Q And it was the third one. So there --

A Third one, yeah.

Q -- had been two previous ones before that.

A Yes.

Q So there's a chart over here we're going to get to it in just a second. Did you produce this chart? This

sort of phylogenetic chart that's right here?

A Oh, yes, we did.

Q Does that relate to the samples that were sent to you and their genetic relatedness to either each other or to these other samples that you tested in your database?

A Yes. This chart depicts those specimens, those quasispecies.

Q On your -- on your screen and what is displayed as State's -- and I think this is -- any stipulation upon this? You don't have an issue with this?

THE COURT: It was already used in your opening I think.

MR. STAUDAHER: Yes, 74 is currently in.

BY MR. STAUDAHER:

Q We actually have 70 -- 73 and the reason there are two different ones, just so you're aware so we can see it, is there's a name right here that's a little difficult to read on -- with this color background. And then this one you can see that it's Sonia Orellana. Do you see that?

A Yes, I do.

Q Okay. Now, going back to the original 74, not 73, I want to direct you to the column which has these letter designations, HCD1, 29, 30, 31, 41, 42, 44, 45, and 46. Do you see those?

A Yes, I do.

Q And when you got the samples into the laboratory, did they have the names associated with them or just a number?

A Only numbers. We never have names associated because of human subject restrictions.

Q On your -- I'm not -- I'm going to call it a phylogenetic chart. Okay? Is that fair? Is that pretty much what it is or is it something else?

A It is phylogenetic chart.

Q So on your chart over there, they don't have any names on them, correct?

A No.

Q Because you didn't have any names?

A No, I never had any names.

Q So the -- the designations here, the HBC and then the number, is that something that a -- a number that was in -- produced by the Centers for Disease Control for this study?

A Yes, it was I believe generated in reference laboratory.

Q And the dates are over here too. I know you don't necessarily know what date it was sent to you, you just got the sample.

A Yes.

Q But the reason I put the dates there is because

you got the dates separated as to the different groups that were sent to you at different times and some of the colors are the same. You see two of them are red but they're different dates.

A Yes.

Q Okay. So on your chart we've got two different groups at least listed there and I'd like you to, if you can --

MR. STAUDAHER: And Your Honor, I believe this has been stipulated to. This is State's Exhibit 16. I'd like to publish a portion of it if I may.

THE COURT: All right. Sixteen is admitted and you may publish.

(State's Exhibit 16 admitted.)

BY MR. STAUDAHER:

Q I'm just going to take it apart here. I'm going to show you -- and I know that's really tough. I'm going to zoom in as much as I can on it but I just want in general if you can tell me kind of what we're looking at it when I get it closer --

THE COURT: And if you're still not able to read it, Mr. Staudaher can show you the actual --

MR. STAUDAHER: That's right.

THE COURT: -- exhibit.

A I can imagine --

BY MR. STAUDAHER:

Q You want me to walk it up to you?

A No, no, no.

Q Okay. Can you read it?

A Yes.

Q Okay.

A To some extent.

Q Do you see that there is a whole -- there's a column here that says patients and it's got the letter, those designations that you talked about and it goes all the way down and then there's a -- there is two different colors of these things and -- and patient B and maximum, minimum and mean. Do you see that?

A Yes.

Q Okay. I'm going to walk it up to you so you have it so you can look at it in general and then I'm going to bring it back here and ask a couple questions about it if I may.

MR. STAUDAHER: For counsel this is Bates number GCDesai-169.

BY MR. STAUDAHER:

Q Do you see that?

A Yes, I do.

Q Does that look familiar to you as something you've seen before?

A Yes, it is familiar.

Q Okay. And what is it exactly?

A It is a table of genetic distances that we quasispecies sampled from each and every person.

Q So what do you mean by genetic distances?

A We're calculating if, for example, we have two sequences of nucleotide sequences which we obtain from this virus, let's -- let them be at 100 nucleotides long only. Then I start comparing let's say one sequence of 100 nucleotides long for one patient to another sequence of 100 nucleotides long. And then I align them so they would be aligned properly from nucleotide one to 100 and then I look at differences between those two sequences. Any of them -- let's say only two differences, I would say it is two percent difference. That's the numbers in this -- in this table.

Q Okay. Now you mentioned -- so those are -- those are how closely related the viruses are then?

A Yes, it is a measure of it.

Q Now, I'm going to put up -- and we've got a larger diagram, but I want to -- I want to zoom in on some of this here. This is the -- let's go out just a second. I hate to make everybody sick. Okay. I'm going to show this bigger and we've got the diagram there. I may have you actually go down if I need to. And just -- just for -- for you, you can take your fingernail and you can draw on this screen. Okay?

And you can just tap it down here to clear it if you need to, if you need to show us something.

A Oh, okay.

Q When you are looking at this -- this phylogenetic chart that you talked about, on it there are a whole bunch of circles that are kind of light in color and it says NHANES three participants in your -- in your sort of legend here. Do you see that?

A Yes, I do.

Q As far as the -- the darker area here and here, this says clinic acquired HCV infection and potential source. Do you see that?

A Yes, I do.

Q So in -- before I zoom in on these individual sections, can you tell us kind of what we're looking at here?

A This actually a model that depicts genetic relationships between each and every variant which was sampled from each and every patient. And if you recall from each and every patient where sampled more than one variant, usually 20 to 30 or sometimes up to 200. In -- in this case we have long branches and short branches. Short terminal branches are right here, for example. We call them tips and they represent individual --

Q Just tap it.

A It doesn't work for me. We have each and every

of that tips represent individual genetic variant, which was sampled from those patients.

Q One second. I want to -- I want to go to that since you're trying to explain that so that we can see it. So when you're looking at -- at these -- wow, it's not focusing very well, is it?

A Yeah.

Q Well, when we see those little branches and maybe that -- it will be a little easier --

MR. STAUDAHER: Can I have him come down, Your Honor, so I can ask him some of these questions?

THE COURT: Sure. Sir, you can step down so you can I guess point to the -- yeah, easel.

MR. STAUDAHER: Try not to hurt yourself.

MS. STANISH: Your Honor, could I ask that -- that chart not be blocked. Maybe if Mr. Staudaher would leave the courtroom I could see it.

MR. STAUDAHER: Leave the courtroom, no.

THE COURT: Well, Ms. Stanish --

MS. STANISH: I just can't see it. If they're pointing to it I can't see.

THE COURT: You can -- counsel can --

MS. STANISH: Can I move, Your Honor?

THE COURT: Yeah, I was going to say counsel --

MS. STANISH: Okay, great.

THE COURT: -- can move so that they can see the chart and observe the witness.

MS. STANISH: Great.

THE COURT: You can move to that side or back over there, whatever's easiest.

BY MR. STAUDAHER:

Q So when you were talking, you were pointing to one of these little tiny branches here on one of the circles [inaudible]; is that correct?

A That's correct.

Q So when you talk about small branches or small distances, is that what we're talking about, just a little bit of distance between like a branch point and the end point, that particular line there?

A Yes, that's true. For example, when I see this tip right here, it represents one single variant which we obtained from this very patient. And then you may see some other short tips, they also represent individual variance. And the short of those tips, that link -- the short of those tips, the close of those variance to each other. And then you see here they merge at some point. A merging point is predicted ancestor for those two variance. So it's a bifurcated tree in this case.

Q So when you say predicted ancestor, that means that they have common ancestors before that point and then

they branched at some point?

A Yes. For example, this variant and for example this variant, they have common ancestor here, but then an additional variant right here. Now they share a common -- a common ancestor for this variant in all these branch right here and it goes down the tree.

Q So this circle here represents a patient; is that right?

A Yes. Each encircled area represent population of variants which you obtain from single -- from a single patient.

Q And all of these white ones are different patients from the NHANES participants that you compared to beyond the ones that were just sent from Las Vegas, is that -- is that fair?

A Oh, that's correct.

Q And you said that you -- this -- if I count these, there's one, two, three, four, five, six, seven, eight, nine, so there's only nine depicted on this diagram but you did a very larger number than that. Did you say almost 200 or so?

A Actually, we have many more but we placed those here only for illustration. Just for people to perceive -- to see. What would he -- what originated can be expected from in each and every individual variant. This is diversity of the

population depicted here.

Q So when you look at these two here, for the record I was referring to the right-hand side of the diagram, the most right-hand two circles that are in white, the NHANES participants. I notice the branch [indiscernible] back here for these two; is that right if you follow them back?

A Yes.

Q Now the distance here -- and I know that you got a -- in your legend, something that says [indiscernible] variation five percent and it's got a distance of -- it looks like about six inches on this diagram. Do you see that?

A It's approximation of the scale, right.

Q So is that the amount of variation if there's that much distance there's at least five percent difference between one genetic material and one source and the genetic material from another source?

A Yes.

Q So if we add that distance to this and then this distance up to that point, would that give us the variation between those two individuals?

A Yes, in percents.

Q Okay. So this one we could at least have -- it looks like at least 10 percent variance between these two individuals; is that fair?

A Yeah, it may go up to 20 percent or even more.

Q Okay. And the same thing if we looked at each individual and compared them from one to the other; is that fair?

A That's fair.

Q Now these two here, there's -- there's a large circle that's grayed out with a bunch of colored dots on it and then another one over here. Do you see that?

A Yes, I do.

Q Before you answer another question, I want to put back up on the screen Exhibit 74. I know the colors aren't great on that screen, but to the best as we can, and you can walk up and look at that if you need to, do the colors here correspond with the same letter designations as our [indiscernible] on the exhibit being displayed [indiscernible]?

A Yeah, I believe so.

Q Okay. So 45 is black here --

A Black, right.

Q -- 45 is black there, 42 is blue here and 42 blue there. Do you see that?

A Yes.

Q Forty-six is blue, 30 and 29 are red and the one that is very faint there, which is 44, is this sort of pink line, which [indiscernible].

A Okay.

Q The very top we have one being -- being green and that's also over here as well and yellow is 31 and it's on this -- that as well.

A Okay.

Q So all -- is that fair? Fair representation?

A Yeah, that's correct.

Q As far as least the colors corresponding to the -- to the designated letters that you used to do your analysis.

A That's correct.

Q Now since we were looking at these as individuals, this is a [indiscernible]. Does that look like it's a single individual or are we looking at different individuals there?

A If I wouldn't have those dots here then to find different -- and to read those, I would definitely would say that this is like single individuals, single [indiscernible].

Q Okay. I want to make sure I'm clear on that. If you didn't know that this -- if you were looking at your analysis that you did and you were looking at this just grossly, if we did have the separation that we have here with colors, you would say that that's one single individual?

A That's what I would say.

Q How about over here? Would you say the same thing for that one?

A Exactly the same.

Q What about the comparison between this one over here, which says July cluster, and this one here, which says September cluster, do those look like they're the same individual?

A No, they're very, very different.

Q And as a matter of fact, the variation, if we took 5 percent all the way down the line, there's at least 20 percent variation it appears between the two of those -- those two individual groups; is that fair?

A I believe it is less than 20 percent in this case.

Q Okay. Well, but --

A But it's still very different, yes.

Q Okay. Now, within these -- this population here, can you tell us if you can determine -- now that you know that they're different individuals, how is it possible that they're so related like that?

A Only when people share the same virus they may share quasispecies population.

Q So what does that tell you about whether or not the virus that affects this person and the virus that affects this person, how related are they?

A We usually analyze -- as you understand --

Q Just a second.

MR. STAUDAHER: For the record I was pointing to NC42 and NC45 for the record.

THE COURT: Okay.

A In this case we need to look at all variants that were shown here with black dots and they actually -- as you can see can be found even here intermixed with this variance shown in different color.

BY MR. STAUDAHER:

Q So are the individual dots an individual quasispecies within the sample?

A That's correct.

Q So if this shows you that on -- for example, a person who was at black has many different quasispecies within them that are all closely related; is that fair?

A That's fair.

Q Okay. And this over here where you have a smaller population, the blue or the pink or the red or the yellow or the green or the white, which corresponds with each represented number designation, do those look like they are related to each other?

A Oh, clearly related. They sometimes even share the same variance, which we sampled from different people.

Q So if you were to say -- I mean is this part of your analysis to determine how if, in fact, one person has one virus and the other person has the same virus or doesn't have,

is that what you do?

A Yes, that's exactly what we do.

Q So in this case for those -- for this grouping, it says September, the September cluster, all of those different individuals. Can you tell us if they're related or not?

A Oh, they are very closely related.

Q When you say closely related, how closely are we talking about?

A As much related as individual quasispecies from individual patients.

Q Say that one more time.

A They as much related as quasispecies within each individual patient.

Q And when you said that you were pointing to, again, for the record, the latter two circles from the NHANES participants on the -- on the screen, right side of the diagram. You said that they're as related to each other as the individual quasispecies variation within an individual on the other one of the diagram.

A That's what I said.

Q Is that the same thing for the other diagram over there, the July cluster?

A That's absolutely correct for that cluster as well.

Q Now, when you first -- is this the final sort of version of this kind of phylogenetic chart?

A Yes, it is final.

Q Were there different sort of subversions of that as time went -- as you got samples in to do the genetic analysis?

A Yeah. We didn't receive specimens, all specimens at the same time so we analyze them one by one in batches. So at some point some specimens were not available, we didn't even know if they -- if they come in, we still were doing this for the genetic analysis. So in some previous analysis some of the variance could have been made -- missing.

Q I want to ask you specifically about this one over here on the July cluster, the -- it's depicted as NVC-30. On -- on that particular one, was that one that you had gotten early in the process?

A Yes. This specimen, if I recall correctly, came one of the first to our laboratory and was tested at that time. And in our previous phylogenetic analysis was standing all by itself.

Q When you saw that one, what was significant about that one? I mean, did you -- was there something -- did you know anything about it [indiscernible]?

A No. At that time it was a specimen of quasispecies population. It went away from this cluster,

that's it.

Q But you had this NVC-30 clearly before you had NCV-46 --

A Yes.

Q -- is that right?

A NVC-46 we received I believe in May, like five month later.

Q But you were aware when you got that one that at least it was a sample that had been taken from the day -- the July date, correct?

A I -- I -- at that time I didn't know dates, it was just another sample.

Q So you -- you eventually [indiscernible] --

A Yes.

Q -- charts together. Did you in some way predict -- or can you predict which is the source and which is the nonsource samples for patients from this study?

A Yes. It is not always that we can do this but in certain situations we can. And the major assumption is if -- we already learned that viruses [indiscernible] diverse and it evolves very rapidly over time. So if someone was already infected with hepatitis C for a certain period of time, we would expect certain diversity of this variance in there. And the longer virus evolves, the greater the diversity should be. So in this case source always was infected before the incident

cases. So it -- the amount, the evolution of the virus that the virus can experience should be much greater, so population should be more, heterogenics should be more diverse. In incident cases, since infection is very recent, should have population less diverse.

Q So there should be fewer of the variances is what you're talking about.

A Yes.

Q So a lot from the source patient and fewer for the -- for the infected patients if they're related.

A That we would generally expect, yes.

Q And would you expect to see the -- the related ones come off of a branch of what the source patient would be essentially?

A Yes, we expect and that's what we see in this cluster. For example, this variance shown in black here, they intermix with this variance completely from other patients. And this is clear indication of common source. In that case, we didn't observe this --

Q When you say that case, you were pointing to the July cluster for the record?

A Yes. In that case we did not see identity between quasispecies sample from two different patients. And actual, this table shows this. And then the -- the minimal distance was 98.6 percent between variance sampled from

patient 46 and 30.

Q Okay. So over there at the time that you got it, you've got 30 and it's sticking way out here away from the rest of these; is that right?

A Yes.

Q And when I say the rest of these, I'm talking about the September cluster. So you knew that there was a -- there was no relationship whatsoever of the July cluster to the September cluster.

A Yes, it was absolutely clear.

Q Totally different virus.

A Totally different viruses.

Q Now did you expect if you would find the source patient that it would -- it would display like it is there when there's a very -- very source patient and a very narrow infected patient?

A In general, we don't expect that to identify directionality of transmission, but in this case we could detect this.

Q So you don't expect to do that. Is that because you don't usually see this kind of thing?

A It's not always because sometimes -- if for example, transmission would occur from this patient, this most probably -- we wouldn't be able to identify directionality of transmission.

Q So when you finally got the NVC-46 patient and you did the analysis on it, did it fall where you predicted if it had been genetically related to NVC-30?

A Yes. We clearly knew that it is genetically related. These two patients have populations of the virus that genetically very tightly related.

Q And you mentioned the difference in the maximum [indiscernible] type sequence identity and there's some -- there's some ranges here. It says the September cluster ranges between 92. -- or 98.2 percent and 100 percent. What does that mean?

A Since we have population of variance here sampled, so we'll look at genetic distances between all variance sampled in all patients. And then we present only minimal distances. Or let's say this patient would have 30 variance and we compare it to another patient who has also 30 variance. So all 30 on one side on the -- and other side compared. Then we take the minimal distance and we put in this table. Then we go to another patient and then we do the comparison by all possible peers. Let's say patient one to two, two to three, one to three, two to four and so on. And that's what this range is all about.

Q But your range goes up to 100 percent. How's that possible?

A Oh, it means that patients have -- were infected

with identical quasispecies variance.

Q So we're not talking about just ones that were most of them were similar, we're talking about all of the [indiscernible]; is that right? Or all of them are the same essentially if it's 100 percent.

A I need to look -- that's -- that table which you showed before.

Q You can sit back down. If you need to go back and forth [indiscernible]. I'm showing you Bates number 169. Is that what you were asking about?

A Yes. And if you look at this red area at the bottom of it and then you -- now you look at the word -- at the column identified as maximum, in this case maximum identity.

Q I'm going to put that up so the jury can see as well. And you said it was right there where it's in the 100? Again, the column that we're looking at talks as maximum and minimum?

A Right.

Q If we go down and we look at that, we've got it looks like NVC-45 and NVC-41, look to be 100 -- and NVC-31, they're 100 percent?

A Right.

Q Okay. And the rest of them as we go up, 45 is 99.7, 99.7 and the like?

A Yes, it basically one nucleotide difference.

Q So one nucleotide difference between the virus from the source patient and the infected patient.

A Yes. In that case NVC-44 and NVC-45, yes.

Q Right. So in looking at all these, can you definitively say that the viruses that are depicted on your diagram were derived or were -- came from a single source patient and that it's depicted on there as, in this case, NVC-45?

A Yes, absolutely.

Q And NVC-45, and we're talking about the September cluster, at least according to your chart, is -- I know you don't know this specifically, but I'm just showing this to the jury. We've already had stipulation to this. NVC-45 is Kenneth Rubino; is that correct? That's the name shows there on this chart?

A Yes.

Q Now in the other cluster, the 46 and 30 cluster, can you tell us who the source patient is based on your review of -- again, Bates number 169.

A Actually, this table is not useful to identify the source. It just basically saying that these two quasispecies population very close to each other and shared maximum 98.6 --.6 percent of identity.

Q But in looking at your chart, can you tell who's

the source and who isn't the source there?

A Oh, yes. It is NVC-46 because it contains significantly more heterogenics population than NVC-30.

Q So NVC-46 is Ziyad, Sharrieff, correct, at least according to this chart?

A Correct.

Q And we're looking at 74. And NVC-30 on that is Michael Washington.

A That's correct.

Q I know you didn't have the name, but I'm just saying it corresponds, does it not?

A Yeah, I'm looking at this chart.

Q Any question that we're talking about these being at least all genetically identical or close to being identical for each individual day?

A No question actually, it's --

Q And when comparing the two days, are they even remotely close to each other?

A No, they're not, they're totally different.

MR. STAUDAHER: Pass the witness, Your Honor.

THE COURT: Counsel, approach.

(Off-record bench conference.)

THE COURT: Ladies and gentlemen, we're just discussing scheduling, whether we're going to take out lunch break now or whether or not we're going to try to finish up

with this witness in a decent time because we don't want to take lunch at 3:00. So we're going to have -- you follow Officer Hawks, who informed me that you've been complaining we don't take enough breaks and -- I know, I was teasing.

And once again, I do need to admonish you that you're not to discuss the case or anything relating to the case with each other or with anyone else. You're not to read, watch, listen to any reports of or commentaries on this case, any person or subject matter relating to the case by any medium of information. Don't do any independent research by way of the Internet or any other medium and please do not form or express an opinion on the case. If you would all please place your notepads in your chairs and follow the bailiff through the rear door.

(Jury recessed at 12:02 p.m.)

THE COURT: Sir, when's your flight?

THE WITNESS: 3:15.

THE COURT: 3:15. So you would very much like it if we could finish with you before lunch, I'm assuming?

THE WITNESS: Definitely would.

THE COURT: Okay. I need to take a break anyway. But Ms. Stanish, how long about do you think for your cross?

MS. STANISH: I -- I'm not sure, Your Honor, to be honest with you --

THE COURT: Yeah, I mean, I know if you say --

MS. STANISH: -- because it's so technical.

THE COURT: -- an hour and it goes an hour and a half, I'm not going to stop you.

MS. STANISH: I'm trying to be -- you know, anywhere from a half hour to an hour --

THE COURT: And then Mr. Santacroce?

MS. STANISH: -- I'm guessing.

MR. SANTACROCE: Five minutes.

THE COURT: Okay. And then whatever the redirect.

MR. STAUDAHER: There won't -- probably won't be much.

THE COURT: Okay. All right. And the juror questions. I know that there's probably not going to be many. All right. If anyone needs to use the restroom or something like that, let's do it now and then we'll come back before lunch.

(Court recessed at 12:03 p.m. until 12:07 p.m.)

(Outside the presence of the jury.)

THE COURT: Is everyone ready? The jury's fine going late, a little bit later for lunch so we'll finish up his testimony. And we're missing Ms. Stanish and Dr. Desai, so we need to wait a moment. As soon as your client gets here, Ms. Stanish, we can get started.

MS. STANISH: All right.

THE COURT: So is he in the restroom or --

MS. STANISH: I didn't follow him. I was in the restroom so I don't know where he is.

THE COURT: Well, here's how I would conclude that. If he's not sitting in the hallway somewhere --

MS. STANISH: He's probably in the restroom.

THE COURT: -- he's not in the courtroom. I would assume that he's in the restroom.

MS. STANISH: Me too.

THE COURT: Mr. Wright, are you ready to go?

MR. WRIGHT: Yep.

THE COURT: Could you tell Penny to bring the jury in?

(Jury reconvened at 12:15 p.m.)

THE COURT: All right. Court is now back in session. Ms. Stanish, you may begin your cross-examination.

MS. STANISH: Thank you, Your Honor.

CROSS-EXAMINATION

BY MS. STANISH:

Q Sir, how do I pronounce your last name?

A Khudyakov.

Q Khudyakov? Can I call you Dr. Yury?

A That's the best.

Q Thank you. Thank you also for reminding me why I'm a history major when I was in college. I want to first talk about your laboratory. As I understand it, your main

mission of your laboratory is it's a research laboratory, correct?

A That's correct.

Q You're not a -- you're not a -- a -- like a Department of Justice certified DNA laboratory or anything like that.

A No, we're not a forensic laboratory.

Q And by the way, are you familiar with the Department of Justice's process for DNA labs?

A Well, not in all details though but in general all these are related protocol should be treated the same or assays.

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

A Yeah. I'm not familiar in all details how they treat the assays. But in general, I assume that general stream of test is the same.

Q Okay. So you think the testing is the same as what the Department of Justice requires?

A No, I don't think so.

Q Oh, you're not --

A I have no idea even --

Q Okay.

THE COURT: Are you saying that the general principles laboratory --

THE WITNESS: General principles laboratory, yeah.

THE COURT: -- would be the same between what the DOJ does and what the CDC does?

THE WITNESS: Exactly.

THE COURT: Okay.

BY MS. STANISH:

Q But testing for hepatitis C and trying to match the source patient with infected patients, that's entirely different then the DNA process of the criminal labs?

A I'm not aware of any laboratory of -- let's say in criminal justice laboratories doing this assays which we do.

Q Are you aware of other laboratories in the country that do these -- this kind of testing?

A Yes. There are some other laboratories that do similar testing --

Q In our --

A -- at universities.

Q At universities? The -- you didn't have -- just to clarify a few points. I understand your job is molecules and genes. You don't have contact with -- well, I should ask you. Do you -- did you have contact with law enforcement in this case?

A No, I didn't.

Q Aside from the District Attorney --

A Yes, I --

Q -- you, of course --

A -- that's true.

Q -- dealt with them. Did you have any dealings with the Southern Nevada Health District?

A Not directly.

Q And people who you supervised I assume had contact with them.

A No, they did not.

Q Oh, okay. When you say not directly, what are you talking about?

A Oh, because in reference laboratory, people -- people definitely communicated with the Nevada Department of Health. I did not communicate directly with them.

Q And I guess we should clarify that. You're not the guy sitting under with the machine actually testing the sample, you have some staff member doing it?

A That's true.

Q And -- and you are -- you're not sure one way or the other -- well, that staff member then would have been the one to communicate with the Nevada Health District?

A Nobody communicated with Nevada Health District --

Q Okay.

A -- from my laboratory.

Q All right. Just somebody else in the greater

CDC had communications with them.

A Most probably someone from epidemiological program because we're appointed epidemiologists at the Centers of Disease Control.

Q What is the definition of epidemiology?

A Epidemiology? A dissemination of disease.

Q I'm sorry?

A Study of dissemination of disease in human population.

Q Could you just repeat your entire testimony? No, I just want to jump -- I'm going to jump around because -- because I was a history major. The -- I do want to start with your diagram up there to make sure I understand a few points. All right? The first point, I understood you to testify that this is the final chart that gives us a picture of your test results; is that correct?

A Yes, it is the very last.

Q I'm sorry?

A It is the very last.

Q And I -- and as I understand it, there were other ones but you didn't have all the samples so it couldn't be finalized.

A Yes, that's true.

Q Now you testified before the grand jury, correct?

A Yes, I did.

Q And at that time was your chart finalized?

A Yes, it was. We already had our information, paper was published.

Q That's right. You published a article on this, correct?

A I was a co-author on that -- on that paper.

Q What -- now this -- one thing at a time because I -- like I said, I'm jumping around here. Nucleotide variation five percent. And as I understood that, that was a matter of the distance between what; variance?

A [indiscernible] phylogenetic tree.

Q Okay. And do you recall at the grand jury the nucleotide variant was different than five percent? Would it help if you could see --

A Yes --

Q -- the grand jury material?

A -- it would.

MS. STANISH: Court's indulgence.

THE COURT: That's fine.

MS. STANISH: Sorry. I have a lot of paperwork here. Indulge me a moment. I'm going to show him this exhibit.

MR. STAUDAHER: Yeah, that's fine.

MS. STANISH: And then I'll just show him the transcripts to refresh his memory.

MR. STAUDAHER: Sure.

BY MS. STANISH:

Q Do you recall the date that you testified?

A No.

Q If I can approach I'll help you out with that.

A Okay.

Q Just read this to yourself. So what was the date?

A Oh, April 15th, Wednesday.

Q And now I'm going to show you this document. It was an Exhibit 11A in the grand jury and if you would just take a look at that. This was the -- do you recognize that?

A Yeah, I recognize it.

Q Now, I asked you whether the final chart -- whether there was a final chart submitted to the grand jury. You had all the data for this exhibit, correct?

A Yes, we did.

Q Why is the variant -- what is the variant that was presented to the grand jury? Was it a error or what?

A No.

Q What, what is it?

A A nucleotide variation. Actually this bar has -- it approximates the scale at which this phylogenetic tree can be analyzed in terms of genetic distances. So for that matter, it could have been two percent or even ten percent.

It's just a simple scale mark.

Q I'm not -- I'm not understanding what -- you -- why was this chart changed to five percent compared to the three percent variant?

A It is the same way as you would measure distances. You may use it in meters or centimeters. So I could have said it is 20 centimeters and put it as a scale in order to measure the distance. And later I could have said maybe it would be more convenient to measure it in meters and then I would say a two-meter scale, but then it would be bigger.

Q So --

THE COURT: So are you saying the -- it's the same value, if you will, or number, it's just measuring -- it's the same quantity, it's just measured in different units?

THE WITNESS: Yeah. Units are the same in this case, percentage. But in -- in one case we show this -- the size of the scale as five percent, in another case it should be three percent.

BY MS. STANISH:

Q All right. So it's kind of like --

A Or genetic differences.

Q -- kind of like a map, you just -- you're -- you're telling me that the information that you -- was presented in the grand jury is the same but you just had a

different scale like we would on a map?

A Yes, that's what I'm saying.

Q I didn't know. All right.

A And then this also only approximation.

Q Okay. And speaking of approximation, is -- is molecular epidemiology, is it a -- you know, you told Mr. Staudaher that it is definite that these colored dots match with the black dots, correct, definite?

A In what case? Oh, in both cases it is true --

Q Yeah.

A -- yeah.

Q Okay. And the -- let me focus on the white circles. Those, as I understand it, the white circles represent individuals who are, for lack of better term, a control subject.

A Yes.

Q And am I to understand that the reason you have that information up there or the reason you go through the trouble of comparing what's in the dark circle with the population, the surveys, as I understand it, is so that you can determine that this isn't just some random chance that these sequences land on the same dots as the host patient. Is that a fair statement or --

A It is very fair statement but we use this only for illustration purposes. Just for people who look at this

tree would appreciate genetic diversity within individual patients and then within the cluster.

Q Okay. Are you -- do you know enough about the Department of Justice requirements for DNA to know that the random -- the comparison between the test subjects and this control patient, for lack of better term, your control group, that that is required that you have to have a statistical analysis in order for these dots to have significance? Do you know?

A Oh --

MR. STAUDAHER: Objection, vague and ambiguous. I'm not sure if we're comparing the same, you know, it's the -- he's already testified.

THE COURT: Well, I'm sure the witness -- I mean if he can't answer the question as phrased, I'm sure the witness can say, I can't answer that question the way you've -- you've phrased it, so --

BY MS. STANISH:

Q Right. And if it's because of my ignorance of science, please feel free to correct with me the appropriate terms.

A We did -- we did statistical analysis in reality. And there are different ways of doing statistical analysis. I'm not familiar with requirements of Department of Defense, but for the research purpose, we definitely do this.

And we know that diversity within individual patients may not exceed more than four percent -- or -- or I mean of type 1-A, subtype 1-A. We did not see it.

Q And the control group that you used came from a survey, correct?

A Yes.

Q And that basically means that the CDC over time collected blood samples from a wide range of children and adults across the country.

A That's true.

Q And this control group, those blood samples, do you know what years they were collected?

A '88, '93.

Q '88 to '93?

A I believe I'm correct, yeah.

Q And when you -- did your -- did your lab select certain characteristics of -- from this survey as a comparison? Do you see what I'm saying?

A No, I'm not clear.

Q Okay.

A I'm sorry.

Q The -- your survey group, I mean there's a stash of blood samples or something in the CDC lab that let's you compare test results to this control group.

A I'm not following --

Q Yeah, because I -- I don't understand. I'm just trying to figure out how you came up with this model and make sure that I understand it. And since I'm not as smart as a fifth grader, I'm trying to dumb it down and probably dumbing it down too much for myself. The survey, the control group that you're -- you compared the test group,the testing samples to the control group. Okay? That control group comes from this population of people that the CDC collected information on over time.

A Yes.

Q And collected the blood samples of these people between 1988 and 1993, correct?

A That's correct.

Q And -- and what is it, just you have the data from the blood samples? Somehow the blood samples back in -- between 1998 and '93, those blood samples were just examined way back and put into this database, is that how it works?

A Yes, to some extent that's how it worked. We were involved and we still do -- involved in genotyping of all hepatitis C cases when they're detected. In that case we also had protocol approved to deal with, to understand quasispecies organization of hepatitis C virus in individual patients because at that time with the inception of -- idea of how to track transmissions. So in this population this conveniently became available to us for that very study and that's why we

use it to demonstrate diversity of quasispecies within individuals.

Q All right. So if I'm understanding what you said, is between 1988 and 1993 you got samples of blood that were infected with hepatitis C and you examined them and kept that data so that you could use it as a comparison group for something like this, to compare it to.

A That's correct.

Q Okay. So my question is, when the comparison is being done for the -- I'm going to call the shaded areas our test, test samples. When the test -- when the test group is compared -- is going to be compared to this control group whose blood was collected back in the 1980s and early '90s, would you select certain characteristics from the whole survey because -- do you seen what I'm saying?

A Yes, now I believe I do.

Q Okay.

A No. No specific selection was done for these patients. They were randomly chosen only for the sake of building this phylogenetic analysis, build this tree and for demonstration purposes.

Q All right. So basically your -- your survey group, the control group that comes from the -- the blood that was collected way back, that would include children, adults, old people in their 80s and people from all over the country?

A Yes.

Q And the -- by the way, does it matter at all if the host patient and the infected person, if they're the same race? Does that matter? Does it have any bearing on it?

A We don't see any variation in genetic diversity.

Q Okay. I was just curious --

A Among different --

Q -- because I thought this RNA had something to do with genes and so it would factor in somehow. It does not?

A No. There are certain -- we're doing this research, there are certain changes but not that would be related to this phylogenetic analysis.

Q Given where you're -- where you're analyzing on that -- what do you -- what line, the stream of the -- the strain of the RNA, it's a single strain that you're --

A Right.

Q -- analyzing and you're focusing on the E-1 and the -- well, the E-2 is where you're focusing where all the variable quasispecies are located, correct?

A E-1, E-2 actually because it contains about 200 nucleotides coming from a one and about 100, actually 90 from E-2 which is [indiscernible].

Q And -- but are you saying that there's studies going on or have been done that look at other parts of the strain to compare the genetics between two individuals?

IN THE SUPREME COURT OF THE STATE OF NEVADA

DIPAK KANTILAL DESAI, Appellant, vs. THE STATE OF NEVADA, Respondent.	)	CASE NO. 64591

APPELLANT'S APPENDIX VOLUME 6

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TRAN

CLERK OF THE COURT

DISTRICT COURT
CLARK COUNTY, NEVADA
* * * * *

THE STATE OF NEVADA, Plaintiff, vs. DIPAK KANTILAL DESAI, RONALD E. LAKEMAN, Defendants.	CASE NO. C265107-1,2 CASE NO. C283381-1,2 DEPT NO. XXI **TRANSCRIPT OF PROCEEDING**

BEFORE THE HONORABLE VALERIE ADAIR, DISTRICT COURT JUDGE

JURY TRIAL - DAY 11

THURSDAY, MAY 9, 2013

APPEARANCES:

FOR THE STATE:	MICHAEL V. STAUDAHER, ESQ. PAMELA WECKERLY, ESQ. Chief Deputy District Attorneys
FOR DEFENDANT DESAI:	RICHARD A. WRIGHT, ESQ. MARGARET M. STANISH, ESQ.
FOR DEFENDANT LAKEMAN:	FREDERICK A. SANTACROCE, ESQ.
Also Present:	ARTEMUS HAM, ESQ.

RECORDED BY JANIE OLSEN COURT RECORDER
TRANSCRIBED BY: KARR Reporting, Inc.

INDEX

WITNESSES FOR THE STATE:

WITNESSES FOR THE STATE:

THOMAS YEE

E X H I B I T S

LAS VEGAS, NEVADA, THURSDAY, MAY 9, 2013, 9:09 A.M.

* * * * *

(Outside the presence of the jury.)

THE COURT: All right. Just to put on the record before we bring the jury in. At the conclusion of the day yesterday, before she -- or was it this morning, Kenny?

THE MARSHAL: It was yesterday.

THE COURT: Okay. Yesterday afternoon Ms. Annen Smith indicated to the bailiff that she recognized the face of, I think she referred to him as the Asian doctor, it would be Dr. Bui, she recognized his face. She didn't recall -- she hadn't recalled his name but she had seen him about 10 years ago as a physician. And when he walked in then she looked at his face and felt that she recognized him. All right. Can we bring the jury in?

MR. WRIGHT: How did she recognize him?

THE COURT: By his face.

MR. WRIGHT: Okay. Was she a patient?

THE COURT: Yeah. She saw him about 10 years ago as a patient. I mean, we can bring her in for further questioning at a -- at a break or something like that if you'd like --

MR. WRIGHT: Okay.

THE COURT: -- to do it that way. I'm just informing you of the information that's been conveyed to the Court.

MR. SANTACROCE: When are we going to do the other juror?

THE COURT: We can do it at the next break. Let's go ahead and get Ms. Hutchinson done since we know she has travel plans and she's had to put them off to come back today. So let's get her done so we can make sure she can leave and then we can handle some of these other juror issues on the break. Okay? Or when we take a break at some point today. We're mindful of them and I just don't think that, you know, we really need to do it right this second.

And obviously, Ms. Annen Smith knew that she wasn't to discuss it in front of the other jurors. She approached the bailiff privately and informed him of it. So I don't think there's any concern at this point with her talking to the other jurors because she handled the situation appropriately and pretty much immediately.

So let's go ahead and bring the jury in and then we'll be -- begin with the continuation of Ms. Hutchinson's testimony.

(Jury reconvened at 9:13 a.m.)

THE COURT: All right. Court is now back in session. The record should reflect the presence of the State through the Deputy District Attorneys, the presence of the defendants and their counsel, the officers of the Court and the ladies and gentlemen of the jury.

And we'll recall the witness from yesterday. Ma'am, come on back up here next to me, please. Just have a seat. And you are still under oath. Do you understand that?

THE WITNESS: Yes, I do.

THE COURT: All right. Mr. Wright, are we -- you ready to proceed with your cross-examination?

MR. WRIGHT: Yes, Your Honor.

THE COURT: All right. Go ahead.

CROSS-EXAMINATION

BY MR. WRIGHT:

Q Good morning, ma'am.

A Good morning.

Q My name is Richard Wright. I represent Dr. Desai. I'd like to begin with approximately the middle of 2008. Okay?

A Okay.

Q After the -- your hospitalization, after your interaction with the clinic and after your interaction with the health district. Okay?

A Okay.

Q And then who was -- were -- was your -- were your treating physicians?

A For -- can you please --

Q Primary care and for your hepatitis C virus.

A Dr. Bui was my primary care physician and then

Dr. Bui referred me to Dr. Fayde for interferon treatment.

Q Okay. And you -- you -- you've stayed with Dr. Bui, correct?

A Yes.

Q Okay. Is he still your primary care physician?

A Yes.

Q Okay. I'm asking because sometimes there's a lot of patients involved in this and I get -- get them mixed up with their doctor.

A Bui's been my physician for like the last 15 years.

Q Okay. And the -- on your interferon treatments, that -- that's a series of treatments, goes on for, what, nine months, a year?

A Twelve months.

Q Twelve months. Okay. And you started those in about when? And I'm just looking for months approximately.

A September.

Q Of 2008?

A '08.

Q Okay. And at that time your hepatitis C -- do you know what the viral load is?

A A viral was in the millions or billions, it was high.

Q Okay. And so you started this interferon

treatment program, correct?

A Yes, I did.

Q And that was under the supervision of your specialist.

A Yes.

Q Okay. And that went on for one year.

A Yes.

Q Okay. And was it successful?

A Yes.

Q Okay. So that the hepatitis C virus cleared.

A No.

Q Okay. Tell me the terminology that we -- you would use for the successful treatment.

A That it is in -- in a -- in remission. I get tested once a year to make sure that it has not come back.

Q Okay. And the -- on -- on your testing, if you know this, like when you talk to your specialist -- or who do you see once a year?

A Dr. Fayde.

Q Okay. Could you spell his name?

A F-a-y-d-e.

Q Okay. Fayde.

A Uh-huh.

Q Okay. At -- you went from like September 2008 to September 2009 --

A Yes.

Q -- with your treatment program. And then, did you understand that the blood work, liver panel screens showed negative?

A Yes.

Q Okay. And that -- that's what's called a successful treatment program. Did you understand that?

A Yes.

Q Okay. And then thereafter, you have been -- you -- you visit Dr. Fayde annually?

A I'm sorry. Repeat --

Q Annually?

A Annually, yes, I do.

Q Okay. Or did you start out at six-month intervals?

A I had to start at six-month intervals and then we went once a year.

Q Okay. And then each time you -- you -- he -- you do blood work, a new panel of tests again, correct?

A Yes.

Q Okay. And that's to see if it somehow came back; is that --

A I'm sorry?

Q Using layman's terms, that's to see if the hepatitis C came back.

A Yes.

Q Okay.

THE COURT: Can everybody hear okay? All right.

BY MR. WRIGHT:

Q And so far you -- thankfully, it has been successful, correct?

A Yes.

Q Okay. Now in 2008 you also commenced civil litigation, lawsuits, correct?

A Yes.

Q Okay. And you -- because you had been harmed and so you sued to try to get compensated, correct?

A Yes.

Q Okay. And who -- do you know who you sued?

A The pharmaceutical company and the medical center --

Q Okay.

A -- that Desai --

Q The medical center being where -- where you had the procedures done --

A Yes.

Q -- that were -- where Dr. Desai was.

A Yes.

Q Okay. So you sued the clinic. I mean that's what we call it here, and you also sued pharmaceutical

manufacturers.

A Yes.

Q Okay. Do you know which -- which -- the manufacturer is who manufactured what product, generally, do you know?

A Sicor manufactured the propofol bottles.

Q Okay. Propofol manufacturer?

A Yes.

Q Do you know if you -- you sued the saline vial manufacturers?

A I'm not aware of that.

Q Pardon?

A I have no clue.

Q Okay. But it -- is it fair to say that was handled by your lawyers?

A Yes.

Q Okay. I mean, there was -- extremely voluminous pleadings and counterpleadings in your case. I mean, are you aware of that?

A Can you --

Q The -- the complaint --

THE COURT: That might not be a word that people that aren't lawyers --

BY MR. WRIGHT:

Q All of the paperwork --

A I'm sorry.

THE COURT: No, you're -- no, I know pleadings, what does that mean?

A I mean, it's kind of pleading and pleading, sorry.

BY MR. WRIGHT:

Q All right. All of the paperwork --

THE COURT: It's a lawyer word, Mr. Wright.

BY MR. WRIGHT:

Q All of the paperwork, like your claims is a great big document where you sue somebody.

A Yes, I understand that.

Q Okay. And so as -- as far as like who to go after and what the claims are, you leave that to the lawyers --

A Yes, I do.

Q -- because that's what they're to figure out, correct?

A Yes.

Q Okay. And do you know if you sued like the Lidocaine manufacturers or distributors for the multi-use vial?

A You would have to ask my attorney on that one.

Q And so it's the same for saline multi-use, you don't know if you sued them or not?

A Yes. You would have to ask my attorney on that one.

Q Okay. Your attorney's whom?

A Huh?

Q Who -- who are your lawyers?

A Nia Killebrew.

Q Is that her?

A Yes.

Q In the courtroom?

A Yes, in the courtroom.

Q Okay. And the -- the -- and did she -- she was hired early on. Is that fair?

A Correct.

Q Okay. And she accompanied you to the police for an interview?

A Yes.

Q Okay. And to the grand jury?

A Yes.

Q Okay. And your -- your lawsuits -- your -- you had to sit for depositions, correct?

A Yes.

Q And a deposition's where you had to go to a lawyer's office -- is that where it was, lawyer's office?

A Correct.

Q Okay. And you had to make your safe -- self

available and answer questions for the lawyers, for everyone that you were suing, correct?

A Correct.

Q There's a lot of them. A lot of lawyers questioned you.

A There were a lot of lawyers, but who they were I cannot recall.

Q Okay. And -- and your deposition went for hours, many hours?

A Yes.

Q Okay. And they probed into anything and everything about you and your -- is that fair?

A Yes, that's fair.

Q Okay. And then ultimately are your cases done, your lawsuits?

A Yes.

Q Okay. And so there -- your lawsuits are completed and you won, correct?

A Correct.

Q Okay. And what I'm interested in only what you received or -- or anything -- do you have a spouse?

A Yes.

Q Okay. Was there a claim on behalf of your spouse?

A No.

Q So it was only you as what we call the plaintiff, the person seeking compensation --

A Yes.

Q -- is that fair? Okay. Leaving out costs, attorney fees and all that, I just would like to ask the net number of what you received from the lawsuits.

A Three point nine for future medical costs of anything that I need up until the day I die for -- to take care of myself medically.

Q Okay. So 3.9 --

A Million.

Q Okay. And -- and that was all totally for future medical costs?

A Yes.

Q Okay. And then you received nothing, no other compensation for your injuries, pain and suffering, anything like that?

A I received $20,000 from the lady who sold the propofol bottles to the clinic. I received $150,000 from the clinic. Nothing from Desai because he filed bankruptcy, so it was on behalf of the clinic, not Desai.

Q Okay. And is -- is that included in the number you gave me?

A No, so it's 4.1 million.

Q Okay. And the -- and I'm not intending to pry,

but is that -- is that the total number of all that you received?

A Yes, sir.

Q Okay. The future medical care award, is -- is -- do you receive that only if you get future medical care?

A I receive it in an annuity to --

Q Okay.

A -- make sure that -- I pay for my own medical insurance. It's hard for me to get medical insurance because --

Q Okay.

A -- of my prior history.

Q And you -- I'm sorry I interrupted. The -- okay. And as an annuity, that means you're getting it paid out over a number of years, right?

A Yes, so then that way I can pay for my medical insurance every month and my medical -- what medical doctors I do see are paid. If I -- if a liver fails, it's -- I researched it. It's like $400,000 just to have a liver transplant.

Q Okay.

A So those are things that I have to make sure that I'm protected and my family is protected too because they've been through a lot.

Q I understand. And the -- you -- you have

received that amount, this future stream of payments, correct?

A Yes.

Q Okay. And that -- that is yours regardless of your medical costs.

A Yes, but it's earmarked for me for my medical --

Q I understand.

A -- to make sure that I'm okay that --

Q Okay.

A -- make sure that I get the medical care that I -- that I deserve because I didn't give this to myself.

Q Yes, ma'am.

A Sorry.

Q Thank you very much.

THE COURT: No further questions?

MR. WRIGHT: No.

THE COURT: Mr. Santacroce, did you have any questions?

MR. SANTACROCE: No, I don't have any questions.

THE COURT: All right. Redirect?

MS. WECKERLY: Just briefly.

REDIRECT EXAMINATION

BY MS. WECKERLY:

Q Good morning.

A Morning.

Q Can you describe the interferon therapy that you

went through for the year, like what -- what that consists of?

A It consisted of taking nine pills a day, seven days a week, having one shot in my stomach every Friday. I had to take it on Friday because I had to work during treatment. I -- I went from 225 pounds down to 164 pounds in one year. The pain is just excruciating when taking the pills and the shots. It kind of makes you crazy, so you're just not in your right mind. And it's a lot of doctor visits and so -- and my family went through a lot with me so.

Q Is it okay if I just ask you a couple of specific questions about what you just said?

A Go ahead.

Q The -- the nine pills you said that you had to take daily?

A Yes.

Q Was -- was that at set times during the day?

A Yes, one in the morning, one in the after -- three in the morning, three in the afternoon and three at night.

Q And did those pills make you feel dizzy or nauseous or did you have any kind of side effects from that medication?

A The side effects from the medication was constant sickness, throwing up, not holding food down. The -- the mind set that I -- I just don't know if I can explain it,

but when you go on that drug a hepatitis patient would be able to explain to you that when you're on the drug it actually makes you crazy and you're trying -- and I never liked that excuse. But it actually puts you in some sort of weird space. And so trying to compose yourself during that whole year at work and with home is really difficult.

Q Challenging.

A Yes. And the pain is just -- I can't explain the pain. The pain is just from head to toe.

Q Where -- oh, head to toe. I was like where is the pain?

A Yeah, head -- yeah, head to toe. It's just like you just don't know where it's going to hit you next.

Q Is it like an aching pain or a cramping pain?

A It's excruciating pain like -- like you just got in a boxing match with somebody.

Q And then you said you had to get a shot on Friday?

A On Friday.

Q Why was it on Friday? Like, why did you set that as the day?

A Because I had Saturday and Sunday off so when I took the shot, the shot really did a number on me so I would rather that, Saturday and Sunday, to go back to work on Monday.

Q And -- and when you say did a number on you, what -- what does that mean? Like were you bedridden for the weekend?

A Yeah. I was, yeah, I was bedridden. I couldn't eat before -- after 7:00 at night, I couldn't do -- perform a lot of my housework, a lot of my bills, a lot of forgetfulness. It's just -- you're basically -- it hurts, you just don't want to move.

Q It's a rough treatment.

A Yes, it is. I don't -- would not want anybody on that.

Q And then you do that for a year?

A A whole year and then at the very end of my treatment my -- they -- one of the side effects is -- is memory loss and -- and your blood disorder. So I was doing really good until the last three weeks of my treatment and they were looking at giving me another blood -- give me a blood transfusion and I did not want a blood transfusion because the fact that's --

Q You're nervous?

A -- I don't want a needle near me.

Q Sure.

A So I had -- I've been seeing a hematologist, a hematologist put me on cancer drugs. Anybody who has to take those shots it -- they hurt because my white blood count was

down so I had to take a shot for that and then I had to get a shot for my red blood count to counteract that. It's -- it hurts in the bones and I feel so sorry for cancer patients when they have to go on this. It's just excruciating pain.

Q And so -- and so you had to do that -- you're describing the last three weeks?

A The last three weeks. I was hoping to avoid that because I was doing really good.

Q And you said that your -- I think the word you used was remission?

A Remission, yes.

Q Has your doctor that treats you and that you went through the interferon treatment with, are you -- are you cured? Is this never going to come back for you?

A No. If I -- if I was cured I wouldn't be tested once a year. So -- so it's in remission just like a cancer patient would go -- because my mom had breast cancer so she had to go for five years for testing to make sure her cancer didn't come back. So it's almost the same thing.

Q You only have to go for five years?

A No. I have to go for the rest of my life.

Q Okay.

A No, because it can come back at any time.

Q Yeah. It's just unpredictable.

A Yes.

Q Similar, I guess.

A So it's like when I cut myself --

MR. WRIGHT: Objection, leading.

THE COURT: Well, go on. It's all right.

A So it's like when I cut myself I have to throw everything away. I have to make sure no one uses my toothbrush. I have to make sure that there's -- no one uses my toothpaste or my razors because I don't know if that particular day that if my hepatitis C came back. And I also do get tested for hepatitis B and HIV because you just don't know.

BY MS. WECKERLY:

Q Right.

A I don't -- I don't know too much about those two.

Q So, I mean, there are precautions you have to take in your household to make sure you don't infect someone close to you.

A Yes.

Q Now, Mr. Wright asked you about your -- your litigation and that was against the -- at least the maker of propofol and then you -- you said you weren't sure of some of the other entities; is that right?

A Yeah, that's correct.

Q Okay. Do you have a case that's pending against

your HMO or healthcare provider?

A Yes, I do.

Q Thank you.

THE COURT: All right. Any recross?

MR. WRIGHT: Only on that last question because I misunderstood.

RECROSS-EXAMINATION

BY MR. WRIGHT:

Q I thought all -- all your litigation was done.

A Oh, I'm sorry, sir. I have an HMO case pending --

Q Okay.

A -- against Health Care of Nevada.

Q Okay. And did the -- the recent civil litigation against Health Plan of Nevada a couple months ago, were you a plaintiff in that trial?

A No, sir.

Q Okay. Then to -- and -- I mean, are you familiar with the trial I'm talking about?

A No. I don't like watching the news or read a newspaper. I'm -- I'm sorry, I just don't -- it's too upsetting.

THE COURT: So your case hasn't gone to trial yet --

THE WITNESS: No.

THE COURT: -- or your case? Okay.

BY MR. WRIGHT:

Q Okay. Are -- are you aware that a case has gone to trial against your HMO, HPN?

A Yes, through my mother.

Q Okay. And are you aware that that was successful?

A Yes.

THE COURT: Can I see counsel up here?

(Off-record bench conference.)

MR. WRIGHT: Thank you, ma'am.

THE COURT: Anything else from the State?

MS. WECKERLY: No, Your Honor.

MR. SANTACROCE: Your Honor, I have a question based on the redirect.

THE COURT: Oh. I'm sorry, Mr. Santacroce. Did we also have any juror questions? No? Okay, Mr. Santacroce. Go ahead.

RECROSS-EXAMINATION

BY MR. SANTACROCE:

Q Ms. Hutchinson, you testified that the side effects I believe of the drug or the disease was memory loss; is that correct?

A Yes, sir.

Q And can you tell me how that specifically affected you, that side effect?

A Short-term memory. I -- can you be more specific when you -- what are you asking?

Q Well, I want to know what memory loss you suffered as a result of this disease or treatment.

A Day to day. Sometimes if I have to pay a bill I forget, or sometimes I forget where things -- I've put them, or I have a date book that I write everything down that I need to do so then that way I don't forget those things throughout the day or throughout the week.

Q So is that a long lasting effect for you, this --

A I am not a doctor, so I can't answer that. But for right now it's -- it -- that's what I'm experiencing.

Q About how long have you had it?

A I've had it probably for the last two years.

Q So your memory was better three years ago than it is today?

A Yes.

Q Before testifying here today, did you meet with any representatives from the District Attorney's Office?

A No, sir.

Q Did you discuss your testimony with your attorney?

A No, sir.

MR. SANTACROCE: I have no further questions.

THE COURT: Anything from the State?

MS. WECKERLY: Can I have the Court's indulgence?

THE COURT: Sure.

MS. WECKERLY: No, Your Honor. Thank you.

THE COURT: Any juror questions for this witness? All right, ma'am. Thank you for your testimony. Please don't discuss your testimony with anyone else who may be called as a witness in this case.

THE WITNESS: All right. Thank you very much. I appreciate it.

THE COURT: Thank you and you are excused.

THE WITNESS: You have a good day.

THE COURT: And the State may call its next witness.

MS. WECKERLY: The next witness is --

MR. WRIGHT: Your Honor, please, may we approach the bench?

THE COURT: Sure.

(Off-record bench conference.)

THE COURT: All right, State, call your next witness, please.

MR. STAUDAHER: State calls Pat Armour, Your Honor.

PATRICIA ARMOUR, STATE'S WITNESS, SWORN

THE CLERK: Please be seated and please state and spell your first and last name for the record?

THE WITNESS: Patricia Armour, A-r-m-o-u-r.

THE COURT: And your first name?

WITNESS: Patricia, P-a-t-r-i-c-i-a.

THE COURT: Thank you. Ms. Weckerly.

MS. WECKERLY: Thank you.

DIRECT EXAMINATION

BY MS. WECKERLY:

Q Ms. Armour, how are you employed?

A I am the laboratory manager at the Southern Nevada Public Health Laboratory and we're a component of the Southern Nevada Health District.

Q And as the laboratory manager, what are you in charge of?

A I'm in charge of the operations of the public health laboratory. Our laboratory performs bioterrorism testing for Southern Nevada as well as reportable disease isolate and clinical testing for the health district.

Q And as the laboratory manager, were you involved in the investigation of the hepatitis outbreak that was discovered in 2008?

A Yes, I was.

Q And what -- just generally at first, what role did you play in that investigation?

A As a participant in the outbreak investigation team that the health district has in place, I was involved in the initial planning for the investigation, how we would go

about investigating the initial phone call -- or information that we had received and as well as the entire process of collecting samples, shipping samples and receiving results.

Q And in -- in this particular case, the Southern Nevada Health District consulted with the Center for Disease Control; is that correct?

A That's correct.

Q And they're based where?

A In Atlanta, Georgia.

Q Do you always consult with them in your experience over the years?

A We typically will consult with them if we need additional support or if we need some subject matter expert assistance.

Q So in this particular case in 2008, you said that you were part of -- or you were involved in obtaining samples and shipping those samples to the CDC?

A That's correct.

Q And in -- in the case of your work, did all those samples actually pass through you to get shipped to the CDC?

A Yes, they did.

Q How were -- how were samples collected from what we would call like the victims in the case or -- or people who got -- whose blood was later tested by the CDC?

A So samples could -- could be collected in -- in a couple different ways. We may have received samples from commercial or clinical labs in the beginning stages of the investigation. There was testing that was performed at other laboratories and we were able to obtain those samples and have them transported to our laboratory and then shipped to the CDC. Or we collected samples using our licensed laboratory professionals to collect the samples and -- and transport them to the CDC.

Q And in -- in the case of each individual victim, how many blood samples were actually collected?

A We attempted to collect two samples from every single person.

Q Were both samples then ultimately sent to the CDC?

A No. We -- we kept one sample in the laboratory so that we would have a backup in case there was some problem during transport, then we made sure that we had a backup to keep at the lab.

Q Now when you get the -- the sample, the blood samples of these individuals, are they labeled by the person's name or does your lab assign some sort of number to them?

A So the samples that come in to our laboratory, every sample that comes in to the laboratory comes with a name, first and last name. If it's coming from a commercial

laboratory it may have an additional identifier that the laboratory uses at that facility. And then when it gets to our lab we also assign it a unique identifier that's generated from our computer system.

Q And is there a reason why you use your own identifier or is it just to keep track of things?

A The identifier allows us to keep track of not only the sample but also the test results that will come back from the lab that's doing the test for us.

Q So once you got the samples that you needed, you were actually the person that packaged them and sent them to the CDC or oversaw that?

A I oversaw the shipping. In some cases I did the shipping as well.

Q And each of the different samples of the -- the victims, were they packaged -- how were they packaged to ensure no, you know, cross-contamination or any issues with contamination?

A So all the samples that came in to us were placed into a separate transport bag along with a test requisition. They were all individually packaged and they were all processed individually and they were all shipped individually.

Q So there were never two samples in a -- connected to one another?

A Correct.

Q And those were all shipped to the CDC?

A The samples that were shipped to the CDC, yes.

Q And then you retained a sample.

A Correct.

Q Once -- once the samples went to the CDC, did your lab ever get them back or do they stay with the CDC?

A No, the samples stayed at the CDC.

MS. STANISH: No objection.

THE COURT: All right.

MS. WECKERLY: May I approach, Your Honor?

THE COURT: You may.

BY MS. WECKERLY:

Q Ms. Armour, I'm showing you what's been marked as State's proposed Exhibit 15. Would you look through that package of documents for me? Do you recognize those documents?

A Yes, I do.

Q Are they part of your lab's work in association with this investigation?

A Yes, they were. Those were spreadsheets that we put together to keep track of the various numbers that we were getting that were involved with the samples.

MS. WECKERLY: State moves to admit 15.

THE COURT: Any objection to 15?

MR. SANTACROCE: No.

MS. STANISH: No, Your Honor.

THE COURT: All right. Fifteen is admitted.

(State's Exhibit 15 admitted.)

BY MS. WECKERLY:

Q I'm going to zoom in because I cannot read that.

A Thank you.

Q Can you see your screen though in front of you?

A I can.

Q Okay. Okay. Let's -- this is the first document in the packet. Can you read that or should I get it bigger?

A No. I -- that's fine, thank you.

Q That's good?

A Yes.

Q Okay. And our first column here says patient name, correct?

A Yes.

Q And can you just read the list of names that you -- that are on there?

A Rodolfo Meana, Carole Grueskin, Michael Washington, Gwendolyn Martin, Stacy Hutchinson and Patty Aspinwall.

Q Okay. And this next column, what is -- that's obviously their dates of birth?

A That's correct.

Q Okay. And just moving -- I'm going to just move across the document a little bit. What does this next column represent?

A The -- the column with the patient contact employee or part-time employee, we were actually trying to identify which samples we were collecting, what -- what their involvement was. So in this case these were all patients.

Q Okay. And so that was like a way to just sort of keep track of everybody?

A Correct.

Q The next -- the next column, what is that?

A Our office of epidemiology has a morbidity record number, that's what MR number stands for. And that is a unique identifier in the epidemiology tracking system that was given to each one of these patients.

Q Okay. Now in this -- this column I'm pointing at right now, it says Quest on -- on this person and Stacy Hutchinson here at the bottom. Does that mean that was the lab that collected the sample?

A That was the lab we initially contacted, yes, it was.

Q About obtaining a sample?

A Yes.

Q And this next, is that -- or that would be the

date?

A Well, that was the date that we thought a specimen had been collected.

Q Okay. And then this next column, what is that?

A That is the accession number of the laboratory that collected the sample. There's two numbers that are there. Both of those are for Quest and we were actually able to obtain those samples from Quest.

Q Okay. And then the ones that say no sample, which looks -- looks like on two of them -- or three of them, what does that mean?

A We were not able to obtain a sample that could be used.

Q Okay. So you had to collect your own?

A Correct.

Q And then the next column?

A The next column would be the date of the specimen that was sent to the CDC.

Q Okay. And the next column is the accession number that you talked about?

A The next column is this -- our -- the laboratory at -- our laboratory's accession number.

Q Okay. And that's your own internal numbering system?

A Correct.

Q And then the next one is the CDC?

A Yes. The CDC assigned us with sequential numbers for the study guide and each one of the accessions -- each one of the patient samples was given a unique identifier for the CDC as well.

Q Now did the CDC send you any kind of labels to put on the samples so there wouldn't be a -- a mix-up amongst their numbers and your numbers?

A The CDC sent us preprinted labels with barcodes as well as numbers, a strip of them for each one of the numbers. There was at least 10 to 15 labels. And those labels were placed on the -- the tubes as well as the test requisitions and they also sent us vials to collect -- put the samples into.

Q Okay. And what's the -- the column after the CDC one?

A That was the date we shipped the sample to the CDC.

Q And the next column?

A When the CDC visited us to -- as part of this investigation, they gave another number to the patients that they interviewed and that was a chart identifier number and that was a unique number for each person as well.

Q And what's our next -- oops, sorry.

A These are the results of the hepatitis C testing

that was performed at the CDC.

Q And let's see if I can go to the end here. Can you see that still?

A Yes.

Q Okay. What's the next column?

A The date we received the results.

Q And the next one?

A And the date results that -- the date that office of epidemiology received results.

Q And I'm going to just flip to the -- the next page. These are additional, sort of starting again, these are additional people that were sampled in sort of the same process that you just discussed?

A Correct.

Q And that's -- the names on these people are Sonia Orellana Rivera, Kenneth Rubino and Sharrieff Ziyad?

A Correct.

Q And the columns across, if you looked at them they would be the same?

A That's right.

Q And now flipping to the third page of the packet, this is also a list of -- of patients, correct -- or a list of victims?

A Yes.

Q Now is this document, does it have any

additional information other the previous two that we went through?

A Can you go all the way over?

Q Sure. Am I going too slow?

A It's the same information, we just didn't put the date results received.

Q Okay.

A And the results --

Q So it actually has maybe one -- one column less?

A Yeah.

Q But this -- this packet of documents essentially memorializes how the samples were collected, whether you got them initially from an outside lab, your own internal lab collection, sending it to the CDC and the dates that it actually got there and all of that.

A That's correct.

Q Were there -- other then these individuals, were there any other samples sent to the CDC?

A There were a number of samples that were sent in the initial stages of testing. We collected samples on the employees of the facility and those samples were sent to -- to the CDC for initial testing.

Q Okay. Any other potential patients that were sent to the CDC or is this -- is this who you have?

A This is the list.

Q Okay. Was there -- was there an individual whose blood that you -- you sent twice to the CDC?

A Yes, there was.

Q Okay. Tell us about that, that case.

A We had a sample that was sent to the CDC for initial testing and the CDC contacted us and asked us to please send the second vial that we had in our freezer, they were having difficulty with getting the testing results with that first sample.

Q And what was the name of that person whose sample it was?

A I believe that was Patty Aspinwall.

Q Does Lakota Quannah sound familiar?

A Well, it could be Lakota. Yes, I think it was Lakota Quannah.

Q Okay. So that individual's blood was sent twice to the CDC because the first sample didn't -- for whatever reason they couldn't get results.

A Correct.

Q And so the second sample went as well.

A Yes.

Q Other than that individual, was there any -- anybody else's blood sent? You collected from the employees, these people and then Lakota Quannah; is that right?

A I believe we also sent Patty Aspinwall's --

Q Twice?

A -- twice as well.

Q And what was -- what was the situation with hers?

A It was the same situation. They needed the second vial to do additional testing.

Q So in her -- in her case you don't have a second sample here, but in every other victim's case you do; is that right?

A Yes.

Q So hers was sent twice because -- for whatever reason the first blood they couldn't get results from it?

A I'm not sure exactly what was going on at CDC. They asked us to resend the second vial so we sent it.

Q Okay. Thank you.

MS. WECKERLY: I'll pass the witness, Your Honor.

THE COURT: All right. Cross?

MS. STANISH: Pam, can I have that Exhibit?

MS. WECKERLY: Oh, sure.

MS. STANISH: I didn't see the first page.

CROSS-EXAMINATION

BY MS. STANISH:

Q Good morning.

A Good morning.

Q How are you? Are you a lab technician or what

did -- I know you're a manager, but what's your training? What are you?

A I'm a licensed medical technologist. I have a general supervisor's license with the State of Nevada and I've been licensed as a medical technologist for 40 years.

Q All right. And you stated that all these samples passed through you.

A Correct.

Q And when you say that, what are you talking about? I mean, just handling them, packaging them? I'm -- that's what I wanted to have clarified.

A So the samples -- when we talk about samples passing through the laboratory, we need to have a mechanism to track them and process them appropriately and they need to come into our facility so that we can handle them appropriately and also store them and transport them.

Q And you didn't necessarily -- I guess I should have just asked it this way. You're the supervisor, you didn't have to personally handle each and every one of these, correct? You have staff to do that?

A I have staff that does that, that was under my supervision. But in addition, I actually also assisted with the collection -- the transport and shipping of these samples.

Q Understood. Did the health district itself collect blood samples from people?

A Samples were collected by licensed laboratorians that are employees of the health district.

Q So I wasn't clear on that because I see that -- your -- I should back. You're a certified clinical lab, correct?

A I'm a laboratory, a medical technologist.

Q Oh, I'm sorry, not you. Your facility, it's certified as a clinical laboratory?

A Our laboratory's licensed with the State of Nevada.

Q And -- and that's what you mean by certified laboratories, that they're licensed by the state?

A That's correct.

Q All right. And so some of these samples are collected by people at Quest Diagnostic, correct?

A Two of the samples were collected by laboratorians at Quest.

Q And then others are collected by LabCorp?

A There was a sample that was collected at LabCorp but we did not send that sample to the CDC.

Q And why is that?

A The sample wasn't stored appropriately and so therefore we recollected the sample.

Q And did you have -- what did you do to ensure that Quest properly stored the samples?

A Quest is a licensed laboratory. They follow their standard protocol and the samples were frozen. Our courier transported the samples on dry ice from Quest. They were placed immediately into our freezer at the lab and they were transported on dry ice to the CDC.

Q And I'm going to put this chart -- this is Exhibit 15, back on the -- can you see that because I have a hard time seeing it here. All right. So Mr. Meana's sample was collected by -- by what laboratory?

A That was collected by Quest.

Q And then when there is -- just to clarify a point. When these boxes are left blank, that's your lab that's doing the collecting in-house?

A Yes. We collected the sample because we were not able to obtain one from another laboratory.

Q All right. So the people would have to come to your office and blood would be drawn from there, is that what you mean?

A That's correct.

Q It's not -- there's not other licensed contractors?

A No. All the samples were collected by SNHD employees who are licensed by the state.

Q And so any time we see a blank -- a blank -- any time we see a blank here with a -- maybe just a couple

exceptions, that means those were done in-house?

A That's correct.

Q All right. So Meana is done at Quest. Stacy Hutchinson is done at Quest. And Patty Aspinwall, was it LabCorp and that's the one you had a problem with?

A We did not get the sample from LabCorp.

Q Oh. Well, it says LabCorp here.

A It does and then it says no sample over in the other column.

Q And that's what you were talking about for Ms. Aspinwall, it had to be redone?

A Correct.

Q By your -- by your lab?

A Correct.

Q The -- the dates of collection. And I'll just use Mr. Meana as a sample. This is the -- his sample was collected on December -- is that 27, I -- 27th, 2007?

A That was the original date that we had verbally received that we thought there was a sample collected on that date, on 12/27. And then we contacted Quest to verify that that was the correct date.

Q Did you yourself do that?

A I actually did contact Quest to get in touch -- to find out about these. And so that was the correct specimen collection date was 12/27.

Q Okay. And then you actually -- when do you receive his sample, what day? Is that -- where?

A I don't believe we have that date on the sheet.

Q So basically we have to assume, I guess, that you got it sometime before the date that you sent it to CDC? And -- correct?

A That's right.

Q So in the case of Mr. Meana, it was the -- on January -- is that seven?

A I can't see that.

MR. STAUDAHER: You can zoom it up.

BY MS. STANISH:

Q Can they make these fonts any smaller? Can you see?

A Either a seven or a one. I can't see it from here.

MR. STAUDAHER: Margaret, you can zoom in.

MS. WECKERLY: You can zoom in.

MS. STANISH: Pardon me?

MR. STAUDAHER: You can zoom in.

THE COURT: You can zoom in.

BY MS. STANISH:

Q All right. I can't -- do you think I can see that from here? I can't. I'll just try to read off here, that's all right.

THE COURT: Okay. Yeah -- no, you can zoom it in so it -- well, right --

MS. STANISH: Well, she can see it --

THE COURT: -- that won't -- that won't help you.

MS. STANISH: -- but I can't see. It's me, not her.

THE COURT: That will help the rest of us but it won't help you.

BY MS. STANISH:

Q It's okay, I'll just squint. Would you -- so your assumption is that Quest or the other labs properly stored this -- the samples for a period of time before you received them?

A The sample that we received from Quest was frozen --

Q Okay.

A -- and it was transported frozen.

Q Right. So you -- you assume that they -- you received it frozen so you figured it was properly stored.

A We received it frozen.

Q Okay. And so these samples are coming in at different times. Do you send them right away to CDC or do you wait to accumulate more and then send them in those little bags that you described?

A If you look at the column that says date specimen shipped to CDC.

Q Right. Wait, wait, let me find it.

A Over.

Q Over to the right? This way?

A Yes, over one more.

Q Uh-huh.

A One more.

Q Uh-huh.

A Okay.

Q There it is.

A There's three dates. Three of them were shipped on the 15th, the one was shipped on the first -- in the beginning of January and then another one was shipped the first part of February.

Q And so it looks like you shipped them soon after they're collected with maybe the exception of -- oh, I see. The ones that you -- your lab did, you're able to send them almost the next day, correct?

A That's correct.

Q But if it's another lab it's going to be different, it could be a few days.

A There may be a few days, yes.

Q Okay. And I should back up now and talk a bit about your -- the investigation that you participated in. I understand you were involved in the initial planning stage, correct?

A That's correct.

Q And the -- you -- is it a fair statement to say that you didn't have the expertise in-house to do this kind of outbreak investigation?

MS. WECKERLY: Objection, I think that's a vague --

THE COURT: Kind of vague, yeah. That's sustained.

BY MS. STANISH:

Q Okay. You think it's vague? You didn't get that? Okay. You had mentioned when you were on direct exam that you would rely on the CDC in certain cases, correct?

A Yes.

Q Just in general, you know. We know this is the State of Nevada and the county, you don't do it all. But as I understood your testimony and what I was trying to ask is that I understood you to say that you will number one, consult with the CDC if you need support; is that correct?

A Correct.

Q And you will also contact the CDC if you need -- I wrote subject matter expertise.

A Correct.

Q So -- and I guess I'm asking you, in this particular investigation, did you -- you obviously had to contact the CDC for support because they had to do special testing that you were not able to do in-house, correct?

A I'm not exactly sure --

Q You -- you had to -- why did you contact the CDC to help you?

A So I did not contact the CDC.

Q Okay.

A The outbreak investigation team in the planning process, the office of epidemiology contacted the CDC. I was a component of the team that was part of the planning.

Q Okay, I understand. So you're not the decision maker, you're just one component of the team.

A That's correct.

Q And do you know if the epidemiology unit in the health district of Southern Nevada, do you know, personally know whether they have the expertise to conduct a hepatitis C outbreak investigation, if you know?

A Again, I'm not sure exactly -- could you rephrase that?

Q I'm just asking whether you know, based on your knowledge, do you know if the CDC needed to be utilized because the local office lacked the expertise in hepatitis C investigations, if you know?

A I do not know.

Q Okay. You coordinate, you personally coordinated with I suppose a counterpart in the CDC, correct?

A I coordinated with the hepatitis laboratory to identify how to ship the samples and where to ship them to.

Q And who was -- by the way, who was the head, if there was one, in -- in the Southern Nevada Health District office, who was the head of the investigation?

A The -- there were -- the Southern Nevada Health District is a large district and the epidemiology department, Brian Labus was the epidemiologist that worked on the case. But the Chief Health Officer, Dr. Sands was the Chief Health Officer for the district.

Q But was the workhorse Brian Labus? Was he the main one?

A Brian did the majority of the work for the epidemiology department.

Q And am I right to assume that you had to coordinate with Brian?

A I coordinated with Brian, correct.

Q Did Brian give you directions on how to handle the -- the sampling or did that come from somebody else?

A The directions on how to handle the sampling came from the CDC.

Q And did -- did you personally have any -- did you personally have to communicate with the Las Vegas Metropolitan Police Office during the course of your involvement in this case?

A I did not communicate with the police department during the course of the investigation.

Q And are you aware if anybody in your -- your unit, the lab, are you aware if anybody else did?

A No one else that I'm aware of communicated with Metropolitan Police Department during the investigation.

Q When did you first have any communication with the Metropolitan Police?

A It was during the follow-up investigation that they did contact us about receiving the reports for specific people involved in the investigation.

Q And you say follow-up investigation. Can you give me -- first off, what's the time frame for the follow-up investigation?

A I have -- I really don't remember a time. We finished -- when -- from when we finished our investigation --

Q Okay.

A -- is that what you're asking?

Q I -- you know, I don't know what a follow-up investigation is. But let -- maybe we -- we should do it this way. When -- you're the lab person, a lab supervisor, your main job is to get these samples that are collected by various people to -- from point A to B. That's what your job is basically, correct?

A Correct.

Q And you -- you strived to do that in accordance with the CDC instructions to you.

A Yes.

Q And when are you done with that -- that job?

A Our portion of the investigation finished when the final report was reported by the health district.

Q Your investigation ended when the final report was issued?

A Our component is part -- our -- our role in the investigation finished when the final report was finished.

Q Okay. And do you know when that report was finished?

A I don't remember the date.

Q And when you say follow-up investigation, do you -- what are you talking about?

A Any criminal investigation or civil that went along with this.

Q Okay, criminal or civil. So you had to participate in civil litigation?

A I did.

Q Now the civil litigation started really quick, didn't it, after the notices went out. The PI -- PI attorneys were on it right away; is that correct?

MS. WECKERLY: Objection, relevance.

THE COURT: Sustained. Sustained. You need to ask that question a different way.

BY MS. STANISH:

Q You were involved in civil litigation.

MS. WECKERLY: Objection, relevance.

THE COURT: Well, she can answer. Overruled.

BY MS. STANISH:

Q What I'm trying to get at just so -- I'll give you an overview because I -- I -- I'm trying to understand what you said earlier about being involved in a follow-up investigation. I didn't know what that meant so I'm just trying to clarify that. All right? And -- and I'm -- I thought it would be helpful to put it on a timeline using the time when your investigation ended, but that doesn't seem like I -- it works that way. So I'm trying to establish little milestones so that I can understand when the -- the health district became involved or participated, providing information to the civil litigants. Do you see my overview of what I'm trying to understand here? Do you get it?

A I'm afraid -- it's been five years since we've done this, so my reference or remembrance of time is -- is not something I can remember.

Q Well, that's why I'm trying to help you out, so I'm trying to use little milestones. Civil litigation -- do you know -- you don't remember when the civil litigation started?

A I'm afraid I don't.

THE COURT: Does anyone need a break? Is everybody

okay? All right. I just saw some people looked uncomfortable but -- and if anyone needs a break just, you know, raise your hand, get my attention. Go on, Ms. Stanish.

BY MS. STANISH:

Q Do you know if you were -- what was -- tell us what your involvement was in the civil litigation aspect.

A I did provide one deposition.

Q And do you know when that occurred?

A I don't remember the date.

Q Do you know what litigation -- who the party was? What -- what -- which patient it was on this?

A I don't remember that either.

Q Okay. I think maybe I can refresh your memory.

THE COURT: Did you receive a subpoena to go to the deposition --

THE WITNESS: I did.

THE COURT: -- from one of the lawyers?

THE WITNESS: Yes.

THE COURT: Okay.

MS. STANISH: May I approach, Your Honor?

THE COURT: You may.

BY MS. STANISH:

Q If you can just read this to yourself. I want to ask you what the date of the deposition was. I'll join you up here so you don't feel so alone. Oh, here --

A Okay.

Q All right.

A All right. Thank you.

Q Can you tell us what the date of the deposition was now that you reviewed that document?

A It was April 7th, 2009.

Q And prior to that deposition, did you have to provide information to civil litigants by way of subpoenas or anything?

A I don't recall that I did.

Q Did you discuss paperwork in the deposition from the lab?

A Again, 2009 I -- I believe there was paperwork that was discussed during that deposition.

Q And with respect to the investigation relating to the criminal case, you -- let's -- let's just use this March 2000 -- I'm sorry, April 2009 date as a -- as a milestone sort to speak. Because I'm like you, I don't remember dates. I'm not sure what day it is today. Did your -- did your office, you or anyone you supervise, get involved in the criminal investigation before this date?

A Before the April 7th date?

Q Yeah, April 7th, 2009.

A No.

Q You yourself didn't?

A Not that I recall.

Q All right. Is it -- was there someone else under your supervision who worked with the outbreak team?

A No.

Q You've been with the district for how long?

A I've been at the health district for 10 years.

Q So you were -- at the time this occurred you had been there for what, four years or so?

A Correct.

Q Oh, I -- do you know -- if -- if you know, these -- like Mr. Meana's sample that was done by Quest, do you know who actually drew the sample?

A I do not have that information.

MS. STANISH: Court's indulgence.

THE COURT: That's fine.

MS. STANISH: I think I'm about done. Am I done? What do you think? No further questions. Let me put this back together.

THE COURT: Mr. Santacroce, do you have any questions?

MR. SANTACROCE: Yes.

CROSS-EXAMINATION

BY MR. SANTACROCE:

Q Ms. Armour, you mentioned a Dr. Sands in your testimony. Do you recall that?

A Yes.

Q And what did Dr. Sands do?

A He's the Chief Health Officer.

Q And do you know his first name by any chance?

A Lawrence.

Q As I understand your function or your team's function in this, you were to gather samples, blood samples, patient samples and send them to the CDC. Is that basically what you did?

A That was one component.

Q What's the other one or others?

A We also may have sent samples to the Nevada State Public Health Lab for testing.

Q Okay. But the purpose was to collect samples and send them somewhere, correct?

A That's correct.

Q And how did you identify what samples you were going to collect? By that I mean what people?

A The office of epidemiology identified the patients who had procedures on two specific days and we identified that we were going to collect samples from people who had procedures on those two days.

Q Did you collect samples from all the people that had procedures on those two days or just some of them?

A Just some of them.

Q Do you have a list of those that you did collect?

A That's correct.

Q Where's that list?

A The list is at the laboratory.

Q You don't have it with -- did you produce it to the District Attorney's Office?

A I -- we only produced the list for names that had given permission to hand out, to provide results.

THE COURT: Counsel approach.

(Off-record bench conference.)

THE COURT: You know what, ladies and gentlemen, it's been over an hour now and we're going to go ahead and take our break. It reminds me, I did want to say to everyone, you know, I try to break at least after -- at two-hour intervals. If any of you feel that we're not taking enough breaks or the breaks aren't long enough or you need more breaks or something like that, just make sure you let the bailiff know at the break, at this break, and he'll let me know. All right?

Before we take just about let's -- about a 10 minute or so recess, I must admonish you again that you're not to discuss the case or anything relating to the case with each other or with anyone else. You're not to read, watch or listen to any reports of or commentaries on this case, any person or subject matter relating to the case by any medium of

information. Do not do any independent research on any subject connected with the trial. Please don't form or express an opinion on the case. If you would all please place your notepads in your chairs and follow the bailiff through the rear door.

(Jury recessed at 10:26 a.m.)

THE COURT: All right. And ma'am, you can be excused or you can remain in the courtroom. Your -- any objection to the witness --

MR. SANTACROCE: Well, she's not excused from testifying.

THE COURT: No, no, I meant for the break.

MR. SANTACROCE: Okay.

THE COURT: Any objection to --

MR. STAUDAHER: No, Your Honor.

THE COURT: All right. Or you can stay, your preference.

All right. We took the break -- I called counsel up to the bench based on Mr. Santacroce's line of questioning. I didn't know where he was going with that and I just wanted to make sure that he didn't get into questioning about other patients who were tested and had records at the Southern Nevada Health District. As everyone will recall, the State had issued a subpoena for those records and the health district, I believe they filed it as a motion to quash the

subpoena, and that matter was litigated and the Court ruled that there was a statutory prohibition. This was done some months ago, that there was a statutory prohibition on the Southern Nevada Health District releasing those records based on patient privacy and other -- was essentially the main issue. And the public policy goal of encouraging people to cooperate with the health district to promote the goals of, you know, public health and stopping the spread of infectious disease.

And so I ruled in favor of the health district on that and against the State. And so the reason I called everyone to the bench is I didn't know where you were going with that, Mr. Santacroce, but I wanted to make sure that you didn't somehow get into that or suggest somehow to the health district that they're hiding the ball or they didn't produce everything when that matter -- you know, they had counsel here, it was Terry Coffing and that matter was thoroughly litigated in front of this Court.

So that was what I just wanted to make sure, you know --

MR. SANTACROCE: Well, I can assure you --

THE COURT: -- we didn't get into. And -- and that's why, I just want to make sure everyone remembers that was months ago, everyone remembers that and that certain records -- I don't know, you know, where we're going with this, but

certain records that the State had requested, the Court said, no, I rule in favor of the health district and they are not required to produce these records pursuant to Nevada statute so.

MR. SANTACROCE: Well, I'll tell you where I'm going with it but --

THE COURT: All right.

MR. SANTACROCE: -- I don't want to tell you with the witness in the courtroom.

THE COURT: Okay, that's fine. Ma'am, you can go ahead and be excused for the break. Anyway, I just wanted to make sure that we didn't go down that road. I don't think it's appropriate to question witnesses about records that the Court has excluded.

MR. SANTACROCE: Your Honor, here's my point.

THE COURT: All right.

MR. SANTACROCE: All I want to know are the names of the -- and the number of people that were tested on the two dates, September -- or September 21st, 2007 and July 25th, 2007. And by now the Court and everybody else in this courtroom knows the theory of my defense and it's absolutely essential for me to have those names in order to adequately defend my client. I need to know who was tested and what their results were.

THE COURT: Okay. Well, first of all --

MR. SANTACROCE: And so I'm going to ask her --

THE COURT: -- you can ask her -- okay, the number of people tested and how they determined who to test and how they contacted the people, all of those things are the subject of fair questioning. Okay? What you can't get into is what those people's names were and -- like that. And Mr. Santacroce, you know, that was thoroughly litigated. I don't remember, maybe the State knows, maybe Ms. Stanish knows.

MR. STAUDAHER: Your Honor, can I -- can I weigh in on this just for a moment because I want to make sure that at least the record's clear on where we stood in regard to that. The only information that -- that I believe that we can even get into or Mr. Santacroce could get -- maybe this will be enough for him for what he needs to do, is that there are apparently approximately 10 names on each incident day that were lost to follow-up, that didn't get tested, whatever, for whatever reason. We already have the names of everybody. That's not the issue and defense has that. It was just who were those people.

THE COURT: Right.

MR. STAUDAHER: Now, we couldn't figure -- and that's what the health district would not give us information about and what the Court said we could not get into. But he certainly could find out that of the 65 people on one day, only 55 of those people were actually tested. I think

that's --

THE COURT: Right and that's fine. And you can say, okay, well, what happened to the other 10 people and do you know, you know, were attempts made to contact them and why didn't they come in or what have you. You just can't say who they were.

MR. SANTACROCE: Okay. I got the rules.

THE COURT: So is that fine? I mean can you --

MR. SANTACROCE: I've got the boundaries.

THE COURT: Okay.

MR. SANTACROCE: If I cross them, check me.

THE COURT: All right. Well I just wanted to make sure we were all on the same page here because, as I said, you know, that was a -- that was months ago that the Court issued that ruling and I just wanted everyone to be mindful that, you know, that -- that was the ruling of the Court and I don't think it's appropriate to somehow suggest that the health district is inappropriately hiding information when there was a Court order that said health district, you are protected, you don't have to release this information. State, anything else?

MS. WECKERLY: The only other thing is I -- I'm not sure this witness knows that answer. I mean he can certainly ask. There are health district witnesses who do know the answer so --

THE COURT: Okay. And that's fine. Mr. Santacroce can ask her. If she doesn't know the answer, she doesn't know the answer. And like I said, I think that's perfectly appropriate to ask, you know, how many people were contacted. How many people showed up? How many people didn't show up? And, you know, what efforts were made to get those people there. I think that's perfectly appropriate.

MR. STAUDAHER: And one last thing. It has to go with -- and I don't know if this is the implication now but I'm starting to feel as though that there's becoming a challenge to the chain of custody issue. We've actually discussed this well in advance of trial, is this going to be an issue in the case. So I don't know. It just was we were like, well you didn't test it at your lab, we didn't drag in all those people.

THE COURT: Mr. Wright's shaking his head so maybe we can circumvent this if they're not going to make a challenge.

MR. SANTACROCE: Are you implying I am?

MR. STAUDAHER: No. I'm just -- I was starting to get a little concerned with your line of questioning --

MR. WRIGHT: No. I told you we're not --

MR. STAUDAHER: -- that was going up there saying okay, there's about 10, 15 witnesses we need to bring in then if that's going to be the case.

MS. STANISH: No, no.

THE COURT: All right. Well we can all take our break unless Mr. Wright -- I made a note up here. You'd approached the bench at the conclusion of Ms. Hutchinson's testimony and indicated you wanted to place on the record something regarding I guess your conversations with Dr. Desai and the reason you didn't probe into certain areas on your cross-examination of Ms. Hutchinson; is that correct?

MR. WRIGHT: Yes, Your Honor.

THE COURT: All right. We can do that now.

MR. WRIGHT: Talking with Dr. Desai after Court, after the direct examination yesterday, after the direct examination yesterday regarding Stacy Hutchinson I could not get from him a -- a good memory or recollection regarding the treatment and conversations with Stacy Hutchinson that she testified about when she returned to the clinic and talked to Dr. Carrol and Dr. Desai and Dr. -- she stated that Dr. Desai said let me go get my boss, that exchange.

THE COURT: Right.

MR. WRIGHT: And Dr. Desai's recollection of the testimony yesterday seemed to me to be intertwined with Mr. Rubino and with Stephanie Castleman because she talked about Aspinwall and Martin. And so it -- that was mixed up for lack of a better word in the information about Aspinwall and Martin, which came out of Stephanie Castleman, who's mixed up with what Stephanie Hutchinson actually testified to. And so

I -- I could not, through lack of recollection and being mixed up on direct testimony heard here in the courtroom, could not get reliable information from my client about that. So I did not touch it again and did not cross-exam or explore any further with her her testimony about her interaction with Dr. Desai.

THE COURT: All right.

MR. WRIGHT: Thank you.

MS. WECKERLY: The only -- the only thing I just would want to put on the record is after the direct of Stacy Hutchinson yesterday afternoon at the request of defense counsel, the Court broke so counsel could speak with Dr. Desai.

THE COURT: That's correct, just to put what was -- what occurred at the bench on the record. Mr. Wright approached the bench and indicated he would need about 20 minutes with Dr. Desai in order to go over Ms. Hutchinson's testimony before he began his cross-examination. It was 4:30 at that point, which would have put us obviously at 4:50. And one of the jurors, as we know, has childcare issues and has to pick up her child by six. And so rather than just take a 20-minute break and then come back for 10 minutes, the Court recessed at that point in time giving Mr. Wright the 20 minutes plus whatever additional time in the evening he wanted to utilize to discuss that with his client.

So if anyone needs to take a break, let's just do that and we will go ahead and then come back and resume with the witness's testimony.

(Court recessed at 10:37 a.m. until 10:43 a.m.)

THE COURT: Ma'am, come on up and have a seat back up here at the witness stand. Also, whoever put the easel there, that may be obstructing the jurors' view of the witness.

All right. Everybody ready? All right. Kenny, bring them in.

(Jury reconvened at 10:46 a.m.)

THE COURT: All right. Court is now back in session. Everyone can sit down.

And, ma'am, of course you are still under oath. All right. Mr. Santacroce, you may proceed.

MR. SANTACROCE: Thank you.

BY MR. SANTACROCE:

Q Ms. Armour, there's been representations made in this courtroom that the health district sent out some 63,000 notifications, give or take. Is that fairly accurate, do you know?

MS. WECKERLY: Objection, foundation, if she knows.

THE COURT: If she knows. If -- don't speculate or guess.

BY MR. SANTACROCE:

Q Well, she either knows or she doesn't.

A I have no idea.

Q Okay. The two dates in question are July 25th, 2007 and September 21st, 2007. Are you aware of that?

A Yes, I am.

Q On those two particular dates, do you know how many people were tested?

A I don't know the numbers of the -- on those dates, no.

Q Is it fair to say that most if not all of the people on those dates were tested?

A I don't know.

Q You mentioned earlier before we took a break that you have a list of those people that were tested at the health district office, correct?

A We have a list of the people that the laboratory tested.

Q Would it be fair to say that all the people that were infected on those dates would be on your chart here, this chart that you testified to earlier?

MS. WECKERLY: I'm going to object to the form of the question.

THE COURT: If she knows.

BY MR. SANTACROCE:

Q Why don't I just hand you this exhibit. You can look at it and you can answer my question if you can.

A The people on this list had positive hepatitis C tests.

Q Okay. Except for two people, correct? Lakota Quannah, that was not established that she was positive because I believe you testified that two samples were sent to the CDC and the results came back inconclusive; is that correct?

MS. WECKERLY: Objection, foundation.

THE COURT: Sustained.

BY MR. SANTACROCE:

Q All the -- is it your testimony that all the people on that list tested positive for hep C?

A The people on here have a hepatitis C test positive listed for the results that we received for hepatitis C and a body testing.

Q And the people on that list would be on the two relevant dates, correct?

A That's correct.

Q And my question to you is if there were other people infected on those two dates, they would appear on that list, correct?

A If they had been tested by our facility.

Q Or another facility that you collected the blood samples from.

A Correct.