No. 71348

IN THE SUPREME COURT OF THE STATE OF NEVADA

EMILIA GARCIA,
Appellant,

v.

ANDREA AWERBACH,
Respondent.

APPELLANT'S APPENDIX
VOLUME XVIII, BATES NUMBERS 4251 TO 4500

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A. Correct.
Q. -- right?
And that -- so that wasn't your recommendation.
Prior to you receiving this request from Dr. Gross, you hadn't made an independent determination of doing this procedure on regard to Ms. Garcia; is that correct?
A. That's correct. He sent that over on a prescription, and that's often how I communicate with surgeons.
Q. Okay. And did -- did you have any dialogue with Dr. Gross or did he indicate in any paperwork why he was requesting that you do an injection at the hardware -- hardware injections?
A. I didn't have his notes because there's a delay getting them from transcription. So to expedite the process, he and other surgeons will send over a prescription requesting a procedure be done. And then subsequent to this procedure, I actually called Dr. Gross to make sure I had it right.
Q. Subsequent to the procedure?
A. No. Subsequent to this note here.
Q. Oh, okay. Fair enough. And -- and he told you, yes, you have it right?

A. Right.
Q. He wanted you to do injections of three different parts, the -- the hardware that he had inserted as a result of his surgery --
A. Correct.
Q. -- right?
And the L3-4 facet joint injections bilateral --
A. Correct.
Q. -- two levels? And -- not two levels, each side. Right and left?
A. Bilateral. Yeah, both sides.
Q. And also the right side sacroiliac joint --
A. Correct.
Q. -- correct?
And the reason why he wanted you to do that because -- still trying to find out where this pain is coming from; right?
A. It's a diagnostic tool, and it's a therapeutic tool.
Q. Right. "Diagnostic" means we want to ascertain whether this -- this -- the pain generator is at the SI joint on the right side or whether it's bilateral at the L3-4 facet joint; right?
A. Not "or." It's a combined procedure. So

we're anesthetizing all those structures at the same time.

Q. Sure. And he's asking you -- he's not saying, "Just anesthetize the SI joint because I know that the pain is generating from that point"; right?

A. I don't understand that last statement. "I know"? What do you mean?

Q. Well, he, Dr. Gross, isn't telling you, "Dr. Kidwell, I know where the pain is from. So I only want you to do one location"?

A. Based on her examination --

MR. ROBERTS: Objection. Foundation.

THE COURT: I'm going to let him answer. Overruled.

MR. MAZZEO: Go ahead.

THE WITNESS: Based on his assessment of the patient, which includes physical examinations, he's made a determination that her SIJ is tender, which is a different part of the body than the lumbar spine where the hardware is placed.

It's a combined thing. So he wanted me to anesthetize all those structures at once and assess her pain.

BY MR. MAZZEO:

Q. And -- and with Dr. Gross believing that the

SI joint might be tender, it does not necessarily mean that that is the pain generator for the pain that she's experiencing?

A. Well, actually, if you go through all the literature, there really is no test that works for SIJ pain. You've got to numb it up and see if it goes away.

Q. Okay. So as you've said -- and now we're -- we've circled around, and now we understand and we know that the reason why Dr. Gross wanted you to do this injection at the multiple sites was diagnostic; he wanted to diagnose and try to pinpoint where the pain is coming from.

A. Well, the -- yes. But the second part of it too is therapeutic. I'm putting a bunch of cortisone in there trying to make her better.

Q. Right. And so it's diagnostic-therapeutic. Therapeutic to relieve pain symptoms if any pain symptoms are coming from any of these locations?

A. Correct.

Q. Now, why did Dr. -- did Dr. Gross explain to you why he wanted you to inject the hardware?

A. Yes.

Q. What was it? Why?

A. Well, think of the hardware as the facet

joints. When they put the screws in, they ablate facet joints. So it's kind of a pseudo facet joint injection. It's putting local anesthetic around where the screws and plates are and a little bit deeper.

Q. Okay. And so, I guess, ultimately Dr. Gross was concerned with pain coming from the location of the hardware?

A. Well, coming, yeah, right around the area. I mean, like I explained before, his theory was that you could have return of nerve growth to the facet joints where all these screws going through the facet joints now are right next to them. And so let's anesthetize the entire structure because her back pain pattern didn't really suggest just SIJ pain; it suggested SIJ plus low back. That's why he did that.

Q. Okay. So -- and he's uncertain. That's why we're doing this procedure. He wants to give her therapy. But he also wants to, for diagnostic purposes, see if he's -- see if the pain generator is coming from the SI joint plus --

A. Well, we're all uncertain until we do it.

Q. Exactly. Okay. Fair enough.

And so -- and then, as a result of this, your testimony is that Ms. Garcia obtained some relief?

A. Correct.

Q. And you don't know, though -- neither does Dr. Gross -- whether that relief came from pain that was actually stemming from the hardware, do you?

A. No. And, ultimately, I didn't treat the hardware. I did a rhizotomy to denervate the medial branch dorsal ramus on the facet joints.

Q. Now, moving on to the facet joints, you did a rhizotomy on September 24th of 2015. Yes?

A. Yes.

Q. And, now, that was bilateral at -- would that be three levels? You did bilateral L3-4, L4-5, and then the SI joint right side --

A. Correct.

Q. -- at L5?

So that would be five levels?

A. Well, the nomenclature is very confusing. It used to be -- I don't know -- three or four years ago we would identify the levels we did medial branch blocks and rhizotomies by the nerves.

And the coding industry of the wonderful AMA changed the nomenclature to where we identify it by the joint. It's understood that there are two nerves that go to each joint. So we don't identify the nerve. It's understood which nerves go to which joint.

So what I did was I -- the nerves I actually

burned were L2, L3, L4 bilaterally, right L5, right S1, right S2, and right S3.

Q. Total, I think you said -- was that eight?

A. Total of 6 burns in the low back and 12 in the SIJ, which is part of low back because I did L5.

Q. Okay. So -- and your testimony is that she obtained relief from that as a result of that procedure?

A. Correct.

Q. But given that you -- that you had so many burns, six burns at three different levels bilaterally and then the 12 in the SI joint, as of today, as you sit here today testifying, you can't tell us whether the pain generator was left L3-4, left L4-5, right L3-4, right L4-5; right?

A. No. She had bilateral pain.

Q. Okay. But you can't tell us what level it was at either because you did multiple levels?

A. Oh, true.

Q. Okay.

MR. MAZZEO: Nothing further.

THE COURT: Mr. Roberts or --

MR. STRASSBURG: I'm not insulted.

THE COURT: Mr. Strassburg?

RECROSS-EXAMINATION

BY MR. STRASSBURG:

Q. You made a diagnosis, CPT code 722.10, disk protrusion lumbar. Recall?

A. Correct.

Q. Which disk?

A. Take that to mean disk pathology, discopathy.

Q. Okay. But --

A. That's built into the EMR. That's -- 72210 is actually, if you want to know what the code said -- they changed the codes now, but what that actually says is displacement of the intervertebral disk. But we use it to mean abnormal disk.

Q. All right. And which disk did you diagnose was abnormal?

A. She had disk abnormality at L4-5 and to a lesser extent at L5-1 -- S1 because of the spondylolisthesis.

Q. Thank you.

A. Also, the code for disk with radiculopathy is the same as disk without radiculopathy. It's still the 72210.

Q. So is this like another one of those descriptive codes kind of like failed low back surgery syndrome? It doesn't really mean that much?

A. No. This is actually more descriptive. In fact, the new terminology -- we have a new thing called ICD-10, which is its own list. I think 65,000 currents to almost 200,000. In the future, we'll be describing disk pathology by level.

THE COURT: She froze.

(A discussion was held at the bench, not reported.)

THE COURT: All right. Go ahead, Mr. Strassburg. Sorry.

BY MR. STRASSBURG:

Q. Regarding who -- whether Ms. Garcia was referred to you by her lawyers or not, did you know that in her deposition, she testified that she called her lawyer's office and asked for someone closer than Lemper and they gave her you?

Did you know she gave that testimony?

A. I haven't read her deposition, no.

Q. Now, pain -- postsurgical pain is a recognized complication of the kind of spinal fusion surgery that Dr. Gross did to Ms. Garcia; true?

A. Correct.

Q. And --

A. I don't know if you call it an actual complication. A better word might be "sequelae."

Q. Okay. And pain after surgery, it's recognized, can result from nonunion of the bone grafts used in the fusion. True?

A. Correct.

Q. And would you also agree that if the surgery is to address a condition that's not caused by the collision, then the complications resulting from that surgery also aren't caused by the collision?

A. In this case, the treatment -- the initial condition that necessitated treatment was pain. Absence pain, she never would have come to anybody's attention, she would never have sought care, she never would have had injections, chiropractic treatments, nor would she have had surgery.

The fact that she had a spondylolisthesis probably made her a little more susceptible to injury, so everything follows from that. But absent any symptoms, she wouldn't have sought treatment. She wouldn't have had surgery.

Q. Did you hear my question, Doctor?

A. Well, I might have got it wrong. Let's try it again.

Q. All right. Let's try again. Would you agree that if the surgery is to treat a condition that is not caused by the collision, then complications resulting

from that surgery are also not causally related to the collision? Would you agree?

A. In a general sense, yes.

MR. STRASSBURG: I am not going to prolong this any longer. Thank you for your time, sir. I know you have a busy schedule.

THE WITNESS: Thank you, sir.

THE COURT: Any more, Mr. Roberts?

MR. ROBERTS: Just one clarification.

FURTHER REDIRECT EXAMINATION

BY MR. ROBERTS:

Q. Let's see. The light here. And this is -- did I get that right?

A. Yeah. The bottom one.

Q. Okay. So the bottom one is singular or plural? Bottom one is plural; right?

A. Yes.

Q. Okay. Forgot my Latin roots. So when -- when you distinguished it and said it was really a sequelae, what did you mean?

A. It's a known risk of surgery. All the consents that I have read from surgeons say, I can structurally fix your problem, but you may still have pain. That's a known sequelae, aftermath.

Q. Aftermath. In fact, it's the same root as "sequel." And everyone who reads good books knows about a sequel, right, what that is?

A. Right. When you say complication, that infers that something went wrong that should not have gone wrong. And that's not the case with pain after surgery. Pain is kind of its own beast. Nobody can predict it.

MR. ROBERTS: Thank you, Doctor. Thank you.

MR. MAZZEO: Nothing further.

FURTHER RECROSS EXAMINATION

BY MR. STRASSBURG:

Q. Well, it's recognized that surgery of the type that Ms. Garcia had that is not appropriately done can lead to pain as a complication. True?

A. The big operative word there is "not appropriately done." I don't think we explored that at all.

So if a surgery was done wrongly -- let's say he said he's going to fix L5-S1, he fixed L3-4, that would fall into the category of which you spoke. If you do the surgery that you intend to do and pain comes back -- in other words, in this case, she was getting better, then the pain increased -- I don't know if you

can call that a complication at all.

Q. So it's recognized that the surgery of this type can result in a complication that takes the form of new pain. True?

A. Again, I wouldn't call it a complication. I would call it a known sequelae.

Q. So it's recognized that a known sequelae can take the form of new pain, pain that wasn't present before this surgery. True?

A. That is true.

Q. And based on your logic for the accident, that if she doesn't have pain before the accident, but she has pain after the accident, the accident must be the cause, then if she doesn't have the pain from the surgery before, but she has the pain from the surgery after, the surgery must be the cause. True?

A. It's hard to make that black-and-white statement. I understand your logic. Let me go through it in my mind again.

The patient had no pain before the collision, developed pain afterwards, had surgery, was progressing, and then increased -- then developed an increase of pain for explainable reasons.

We did a spinal cord stimulator, which is a standard procedure to somebody who has pain after

surgery that returns later on. And then we tried these rhizotomies, and they worked. So I'm not going to say that it's an inappropriate result. It is what it is.

Does that answer your question? I'm not trying to be evasive; I'm trying to be accurate.

Q. Let me try it again. When you described the logic of your causation opinion that the accident must have caused the postaccident pain because she didn't have pain before the accident --

A. Right.

Q. -- I'm just asking you, would you apply the same logic to new pain after spinal fusion surgery that isn't present before the surgery? Would you also conclude it must be caused by the surgery?

A. I would say possibly.

Q. Fair enough. Thank you, sir.

MR. ROBERTS: Nothing further, Your Honor.

THE COURT: Ladies and gentlemen, any questions? Not seeing any hands.

Thank you, Doctor. Appreciate your time.

THE WITNESS: Thank you, sir.

THE COURT: Let's go ahead and take our afternoon break, folks.

During our break, you're instructed not to talk with each other or with anyone else about any

subject or issue connected with this trial. You are not to read, watch, or listen to any report of or commentary on the trial by any person connected with this case or by any medium of information, including, without limitation, newspapers, television, the Internet, or radio.

You are not to conduct any research on your own, which means you cannot talk with others, Tweet others, text others, Google issues, or perform any other kind of book or computer research with regard to any issue, party, witness, or attorney involved in this case.

You're not to form or express any opinion on any subject connected with the trial until the case is finally submitted to you.

Plan on 15, because if I say 10, you know it's going to be 15 anyway.

(The following proceedings were held outside the presence of the jury.)

THE COURT: We are outside the presence of the jury. Did you guys want to talk about the deposition before we went off?

MR. MAZZEO: Randy? Roger?

MR. TINDALL: Just a second.

MR. MAZZEO: Yes, Your Honor.

MR. TINDALL: Just need to get this transcript.

THE COURT: Why don't we do this, guys. Let's go off the record. We'll come back in a couple of minutes once you've got your stuff together.

MR. TINDALL: Okay.

THE COURT REPORTER: Off the record?

THE COURT: Off the record.

(Whereupon a short recess was taken.)

THE COURT: Back on the record. We're outside the presence of the jury. Let's talk about the deposition.

MR. TINDALL: Yes, Your Honor. This is the issue of what they're going to play out of Jared Awerbach's depo. I have two objections and one addition I would like to have them have to play.

So the -- the objection begins at 104, 2, through 105, 3. I can give you a copy so you can follow along.

THE COURT: Great. Thanks.

MR. TINDALL: The part that I have a problem with, based on relevance and prejudice to outweigh probative value is 104, 22, through 105, 3, which is information about having kids in the car. I believe it's inflammatory.

They -- what they're establishing here is one of the elements of negligent entrustment. They don't need that portion of it, given the other portions that they will be reading there. And then -- well, just stop there. Submitted on that part.

THE COURT: We already talked about this before opening; right?

MR. TINDALL: I don't know that we talked -- I don't know that there was a ruling on the kids part.

THE COURT: I think we allowed it, because the argument was that it goes to reckless disregard as far as a punitive damages claim.

MR. TINDALL: Okay. Then --

THE COURT: I'm going to allow it.

MR. TINDALL: Okay. The portion, then, that we would like to have added --

MR. MAZZEO: I'm sorry, Judge. I'm sorry. The ruling was what? It goes to reckless disregard on the punitive damages claim against Andrea or against Jared?

THE COURT: Maybe against both.

MR. MAZZEO: Well, no, I mean, where's -- where's there any foundation that Andrea was aware that the kids were in the car? If that's not there, then this is totally inflammatory. And the unfair prejudice

certainly outweighs any -- there's no probative value.

MR. SMITH: Well, first off, it's all one case. But also, Jared's testimony is the foundation. The car seat was in the car. Their stuff was in the car. And we -- you did already rule on this. It's page 33 and 34 of the transcript on February 12th, 2016. We had this whole discussion.

THE COURT: It's already done. Yeah, let's not do it again.

What else?

MR. TINDALL: All right. At 121, 9 through 19, they're going to read that part. And I don't have a problem with that. But if you look, that begins in the middle of a sentence.

THE COURT: Hold on. Hold on.

MR. SMITH: We actually agree to this one, where you said start at "traffic cop" and end with "person." We had made a little bit of a mistake in the designations. So Randy had asked us to start where it says "traffic cop" on line 9 and end where it says "person" on line 19. It's page 121. And we agree to that.

MR. TINDALL: All right. All right. And then added to that, what we claim should be read is all of line 19 -- time out. Page 121, 19, all of that

line, through 122, 1, should be read. And then 127, 21, through 128, 21.

THE COURT: You didn't give me any of that.

MR. TINDALL: No. The markings on there aren't -- aren't my markings. I'm just handing that to the Court. That's actually Pete's transcript. So the stuff that is marked isn't of any relevance.

If you go to 122 -- excuse me -- 127, 21.

THE COURT: I don't have that. That's what I'm saying.

MR. TINDALL: Oh, you don't? We got a -- I'll read it to you.

THE COURT: All I have is what you just handed me.

MR. TINDALL: All right. Let me just read it.

MR. SMITH: I think all you need to read is starting on line 12 on page 128, which the question is:

"And then the reason that you failed the sobriety test was not that you were impaired from marijuana but that you were nervous about taking the test?"

And he explains that. And the prior part that Mr. Tindall is asking about is the setup for that. And the reason they want to introduce that testimony is

to introduce testimony that Mr. Awerbach was not impaired. And that has been excluded. And that's why we will not agree to these sections that they're seeking to add, because it violates the Court's orders.

THE COURT: Okay.

MR. TINDALL: Let me -- let me say what it is I want read.

Thanks, Adam. But don't I think that probably comes as what I'm trying say here.

MR. MAZZEO: I join.

THE COURT: Thanks for trying.

MR. SMITH: I think I accurately read the transcript. So 127, 21. And this is the part where we'd like to begin, which ties into what they've listed earlier.

"QUESTION: And you said that when you talked to the police officer, you admitted that you smoked marijuana?

"ANSWER: He said, 'Oh, God.' He's standing outside the car and he said, 'Oh, God, you smell like a Christmas tree. Have you been smoking?' I said, 'Yeah, yeah,' because I had the -- I said, 'Yeah, yeah,' because I had the marijuana on my person. And I didn't want to be caught with that because I was already

facing two possession charges. I already had two possession-of-marijuana charges. And in the state of Nevada, if you get caught with three possession-of-marijuana charges, you do a year in County. And that was not an option.

"QUESTION: So your testimony today is that you lied to the cop in order to avoid jail?

"ANSWER: My testimony has remained the same the whole time.

"QUESTION: Okay. And then the reason that you failed the sobriety test was not that you were impaired from marijuana but that you were nervous about taking the test?

"ANSWER: I was nervous about being that close to an officer with that much weed on me. I was nervous about my current situation.

"QUESTION: So it wasn't -- it wasn't any impairment from any marijuana?

"ANSWER: No, sir.

"QUESTION: Anyone besides what we have talked about, the police officer, my client" --

Actually, that's -- that's -- I went too far. We don't need to go any further.

So our position is this gives a -- for the --

for the issue of fairness, when they're trying to bring out how it is he lied to the police officer, we now know why he lied. They've already brought up impairment. And we're not offering this to -- to dissuade anybody from being impaired. He is, per se, impaired. But the issue here is, was he willfully driving under the influence, which is a issue we get to rebut. They have to prove that still as part of the punitive damages claim. And this is information that tends to disprove that.

Submitted.

THE COURT: Well, I think I am okay with part of what you want to read as far as if -- if he wants to bring up the -- the three-strikes rule, but I don't think you get to go to that one question and answer that talked about "so you weren't impaired," because the impairment is what's been found as matter of law by Judge Allf. So I don't think he gets to say, "No, I wasn't impaired." So if you don't get that last question and answer that you want, I don't know that you want the three strikes information in.

MR. TINDALL: Well, we need something in, because it tends to minimize what they're trying to -- to claim.

THE COURT: Let me see your transcript. I

mean, I'll tell you where I will -- I'm okay allowing stuff, but ...

MR. SMITH: If the compromise is that the last two questions about him not being impaired are taken out, we'd have, obviously, less of an objection.

THE COURT: Trying to figure out how to make this go up and down.

MR. TINDALL: Would you like me to show you?

THE COURT: Yeah. Show me how to work your computer, will you? So you want to start -- oops.

MR. TINDALL: I believe it's 127, 22. You got my notes now.

THE COURT: All right. Give me a second here. Having a hard time with your computer. Does anybody have a hard copy of this?

MR. SMITH: I have a hard copy of those pages right here, if you would like.

THE COURT: Can I just see those?

MR. SMITH: Absolutely.

THE COURT: All right. Let me give you your computer back, Mr. Tindall.

So you want to start on 127 where?

MR. TINDALL: 127, 21.

THE COURT: I'm okay with you going 127, 21, through 128, 7 --

MR. TINDALL: Okay.

THE COURT: -- which talks about the three-strikes rule. But I don't think that he gets to deny that he was impaired or that he admitted that he was under the influence and that that was a lie.

MR. TINDALL: Understood. So you guys will incorporate that?

MR. SMITH: We'll add it.

MR. TINDALL: Thank you.

MR. ROBERTS: Can we get that again, just to make sure that Audra --

MR. TINDALL: 127, 21, through 128, 7.

THE COURT: Right. So that's all we're adding, in addition to what they have marked on here?

MR. TINDALL: Right.

THE COURT: Okay. Just for the record, I don't have a copy of that transcript in front of me, so if somebody reads something that shouldn't be read, you're going to have to object real quick.

MR. ROBERTS: And just so I can ask, I know last time, Pete, with the officer, wanted to read his section at the end. Is it okay to play it all sequentially as it comes, in order, or do you want the clip you just designated to come at the end separate?

MR. TINDALL: No. Sequential is fine.

MR. ROBERTS: Okay.

THE COURT: So you're playing that by video. Is that what the plan is?

MR. ROBERTS: Yes, Your Honor.

MR. TINDALL: Oh, well, I see what you're asking. Yeah, I'd actually like it to tie into when you play 129, 9 through 19.

MR. ROBERTS: So it's all going to come in the order in which his testimony came in. We'll do it that way.

MR. TINDALL: Okay.

MR. MAZZEO: Now -- now, with respect to Andrea, Judge, just for completeness, we have -- they want to read in three sections. I'm fine with the first section, page 165, line 10, through 166, line 17. And then moving on to 169, they start at line 9 and then cut it off at 15, when, in fact, there's additional information. I can show it to you?

THE COURT: You guys don't have copies of these transcripts for me?

MR. MAZZEO: Judge, I -- I --

THE COURT: That's okay. Show me what you got.

MR. MAZZEO: Sorry about that. And so I would go through the entire one, page 168. So from

167, 9, I would take that down to the end, go to 168, the entire page. I know some of her other testimony is not favorable to the plaintiff, but we should have it in there for completeness.

MR. SMITH: What are you asking to add?

THE COURT: End of 167 and all of 168.

MR. SMITH: Thank you.

THE COURT: I'm okay with that.

MR. SMITH: Okay. We won't argue with you.

THE COURT: There's an objection on the bottom of page 168. Just take that objection out.

MR. MAZZEO: Yep.

THE COURT: I'm going to overrule it. I think it's all fair. And I think it does complete the picture of her discussion about what -- what she thinks she remembers being there. I think that's all fair.

So go 167, line 9, through the end of 168; right?

MR. MAZZEO: Thank you. Yep.

THE COURT: Are we going to play both of these videos? Is that the plan next?

MR. SMITH: Not right now.

MR. ROBERTS: We've got live witnesses, so we'd like to proceed with those and play the videos when we have -- when we have a moment of downtime, if

possible.

THE COURT: All right. We ready to go?

MR. MAZZEO: Ready.

MR. ROBERTS: Ready.

THE COURT: Bring the jury back.

THE MARSHAL: Jury entering.

(The following proceedings were held in the presence of the jury.)

THE MARSHAL: Jury is present, Judge.

THE COURT: Thank you. Go ahead and be seated. We are back on the record in Case No. A-637772.

Do the parties stipulate to the presence of the jury?

MR. MAZZEO: Yes, Your Honor.

MR. TINDALL: Yes, Your Honor.

THE COURT: Yeah.

MR. SMITH: Yes, Your Honor.

THE COURT: All right. Who's our next witness?

MS. RODRIGUEZ-SHAPOVAL: Your Honor, plaintiff calls Emily Garcia.

THE COURT: Come on up, ma'am.

Is this not Emily Garcia?

MS. RODRIGUEZ-SHAPOVAL: No, Your Honor.

MS. GARCIA: I'm the mother.

THE COURT: Come on in. We're going to have you step all the way up on the witness stand. Once you get there, if you'd please remain standing and raise your right hand to be sworn.

THE CLERK: You do solemnly swear the testimony you're about to give in this action shall be the truth, the whole truth, and nothing but the truth, so help you God?

THE WITNESS: I do.

THE CLERK: Please be seated.

Please state your name and spell it for the record.

THE WITNESS: Emily Garcia. E-m-i-l-y, G-a-r-c-i-a.

THE COURT: Go ahead.

DIRECT EXAMINATION

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Good afternoon. Would you please introduce yourself to the jury.

A. Good afternoon. I'm Emily, like I just said.

Q. And, Ms. Garcia, what is your relationship to the plaintiff, Emilia Garcia?

A. I'm her daughter.

Q. Ms. Garcia, you will please tell the jury about the other members of your family.
A. Sophia is 13 now. And that's my sister. And Lennay is 11, my younger sister. I have a dog named Clyde. We have another dog named Boy. Yeah, that's our little family.
Q. So your sisters are 11 and 13. How old are you?
A. I'm 19.
Q. And do you live with your sisters and your mom?
A. Yeah.
Q. Where do you live?
A. We live here in Vegas, like, by the -- by Aliante.
Q. How long have you lived in -- in Las Vegas?
A. Basically, my whole life. I think we moved here -- I was about three or four. I was born in Tucson, Arizona.
Q. Thank you. And are you working right now?
A. Yeah.
Q. Can you tell us what you do?
A. I'm a dental assistant. I've been doing that for about six months now.
Q. Ms. Garcia, we are here today because of an

accident, a collision that took place on January 2, 2011, where a car driven by one of the defendants hit a car driven by your mom. Do you remember the time around that collision?

A. Yeah.

Q. How old were you at that time?

A. I was 14.

Q. And do you remember how old your sisters were?

A. Sophia must have been eight years old and Lennay was six.

Q. And how -- do you remember how you found out that your mom had been in a collision?

A. My uncle told us.

Q. Did you find out before she came home?

A. Yeah. Yeah. He had -- she had been working that day, and she hadn't come home her usual time. So my uncle told us that she told him that she had been in an accident.

Q. And, Emily, if it's easier for you to --

MS. RODRIGUEZ-SHAPOVAL: You can hear her fine?

THE COURT REPORTER: Yes.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Do you remember when your mom arrived to the

house after the collision?

A. Yeah. She came home in the tow truck, because I guess the tow truck driver gave her a ride home. And the car was on the back of the tow truck. So I remember getting home and greeting her. And then we all walked inside the house.

Q. Do you remember what she did that night?

A. I briefly remember that night. I just basically remember her getting home and getting off of the tow truck. But as far as the rest of the night, I really don't remember much else.

Q. Okay. Did there come a time when you realized that your mom was hurting from the accident?

A. A specific time?

Q. Well, if you don't remember a specific time, that's fine. But did you, at any given time, realize that she was in pain?

A. I mean, eventually, I did realize. But it's been so long ago that it's -- it's -- it's hard to picture her not in pain because it's -- you know, I've gotten so used to the fact that she's always in pain. And that's something that we've kind of gotten accustomed to. So it's hard for me to remember that specific time where I actually realized that she was hurt.

Q. But do you remember anything that she was doing that made you realize she was not pain-free?
A. We weren't doing -- we weren't doing any -- any of our usual activities. So she would come home from work and just go straight to bed. So there wasn't really any in-between. So that was one of the first signs. And, of course, she -- she complained a lot. She would cry a lot. It was -- it was a lot that happened.
Q. Thank you, Ms. Garcia. Now, before we go more into detail about what happened to -- how things changed in your house after the accident, let's tell the members of the jury about your family and household before the accident. Who -- who supported your household?
A. My mom.
Q. Does that mean that she was paying for the bills?
A. Yes.
Q. Did you work?
A. No.
Q. Were you -- you were too young to work at that time?
A. Yeah.
Q. So you were not working, but were you helping

around with the household responsibilities, the chores around the house?

A. Every so often, yeah.

Q. Okay. So just to get more specifics, who was responsible for cooking?

A. My mom. My mom cooked a lot.

Q. Who would do the cleaning of the house, mopping and sweeping?

A. Mostly my mom.

Q. Okay. How about laundry?

A. I would do my laundry, but she would do hers and my sisters'.

Q. So would it be fair to say that for the most part, your mom was responsible for the household -- for the household --

MR. TINDALL: Objection. Leading.

MR. MAZZEO: Your Honor --

THE COURT: Sustained.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. So who was responsible, for the most part, for the household responsibilities?

A. My mom mostly. She -- I was younger, you know, before the accident, so it was her mostly taking over mostly everything.

Q. Now, you mentioned that your sisters were, I

think you said, six and eight before the accident?
A. Yes.
Q. What grades were they in, if you remember?
A. Sophia must have been in third grade, and Lennay in first.
Q. Who got them ready for school?
A. My mom.
Q. Did you help at all with your little sisters?
A. No. I -- I -- starting in middle school, I always left before. So my mom would always get them ready.
Q. How about after school? Did you pick them up from school?
A. Yeah. I would pick them up from school. Or when my uncle was living with us, he would take me to pick them up if I wasn't able to walk there, because my mom worked during the day. So at that time when we got out of school, she would be working.
Q. So for what period of time would you be with your little sisters till your mom came home?
A. Till -- from around 2:00 or 3:00 o'clock, until about 5:30, almost 6:00.
Q. Okay. And who would help them with their homework?
A. My mom would mostly do --

Q. Okay. So after she got home or --
A. Yeah.
Q. Okay. And who would take care of dinner?
A. My mom.
Q. Okay. Thank you. Now, if you could please tell the members of the jury about the fun activities you did before the accident. Do you remember what activities you did?
A. My mom went through a phase where she really wanted to lose weight and, you know, stay active. So there would be periods of time where we would go walking often, where, you know, when Lennay was little, we would take her in a stroller or we would take our dogs walking with us. So going for walks.

We spent a lot of time at the pool. My sisters love swimming. So we would go to the pool all the time.

The park. For birthdays, I remember when I was younger, we would have really, really big parties. I mean, like, parties to where my teachers would come, a lot of family, lots of food and -- or my sisters, like, going to Mini Grand Prix or Circus Circus.
Q. Would you go to those places -- like, for example, you mentioned that they like to go to the Mini Grand Prix and the Circus Circus -- all the time or on

special occasions?

A. I wouldn't say all the time, but it was pretty often. I mean, as much as we can -- as much as we could have, we would go.

Q. So who would be the person to take you to these places?

A. My mom.

Q. Would she get into the -- I think the Adventure Dome is the place that has roller coasters and rides and an arcade; am I correct?

A. Yeah.

Q. Okay. Would your mom go with you and -- and enjoy those activities too?

A. Yeah. Yeah. She would go with us and she would get on the rides.

Q. Would you consider your mom to be fun?

A. Yeah.

Q. Okay. Now, let's -- let's think about how things changed after the accident. How would you describe your household after the accident?

A. It got really boring. Really serious, I guess you could say. It was -- it was very different. Very different.

Q. What would your mom do after coming home from work?

A. Sleep. She would come home and go straight to bed.

Q. Do you think that your role within the household changed?

A. Most definitely. Yeah. It was -- it was completely different.

Q. Can you --

A. I was having to do what my mom would normally have to do. So from that point on, it was me having to learn how to cook, me cleaning up more, looking after my sisters a lot more. You know, when -- before, it was my mom would come home from work, and she would do a lot of the things. And it wasn't so much of me having to do -- do a lot of the stuff after she got home.

But then after the accident, it was, like, even when she was home, I was still having to keep up, like if she wasn't there basically. Yes. So my responsibilities were a lot greater.

Q. You mentioned cooking. Would you be doing the cooking and also taking care of the grocery shopping?

A. Yeah. My mom would have me -- we would do a list together of -- you know, she would ask me, well, what do you want to get so you will be able to make it?

You know, asking me what I -- what I would be able to make. And she would take me to the store and have me pick out the groceries. Sometimes it was to the point where she wouldn't be able to get out of the car. So she would have to wait in the car while we went and did the groceries -- the grocery shopping.

Q. How about at the house? You mentioned that now you were responsible for maintaining the house. Were your uncle and your grandmother helping you with that?

A. My uncle didn't really do much. As -- I mean, he would -- he would take me to pick up my sisters from school. But he didn't -- yeah, he didn't really do much. And my grandma, she would clean up after -- she would clean up in the house. But I don't really remember her cooking much.

Q. And now, Emily, the accident happened almost five years ago -- or over five years ago now. How soon after that did your uncle and your grandmother move out?

A. A few months after.

Q. Okay. So they haven't lived there for most of the last five years?

A. No. No.

Q. Going back to the household responsibility,

were your sisters helping you?

A. After the accident?

Q. Uh-huh.

A. Sometimes. Yeah, they were still pretty young. So sometimes I would have Lennay dust the entertainment center, or I started teaching Sophia how to separate the colors in the laundry. Then I would do the laundry. So just little steps like that that I would have them, you know, do. And just little things.

Q. So did they like you asking them to participate in -- to contribute to the household, when before they didn't have to do it?

A. No.

Q. Did they have a nickname for you during that time?

A. Yeah. They used to call me the evil stepmom.

Q. And how did that make you feel?

A. Not good. It was like my bond with them had changed from being able to be a big sister to having to discipline them and -- and be more of a -- of a mother figure and taking care of them. So that was -- that was really tough.

Q. Did you notice that your relationship with your mother changed as well?

MR. MAZZEO: I couldn't hear the question.

MS. RODRIGUEZ-SHAPOVAL: Did she notice her relationship with her mother changed.

MR. MAZZEO: Okay.

MR. TINDALL: May we approach, Your Honor?

THE COURT: Sure. Come on up.

(A discussion was held at the bench, not reported.)

THE COURT: Objection sustained.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Emily, do you remember when your mom had back surgery?

A. Yeah.

Q. When was that?

A. That was December of, I think, 2012.

Q. How did the surgery affect your mother?

A. My mom's always been someone to not want to rely on anyone and do things for herself. So after the surgery, that changed completely. I mean, I had -- I was having to do everything for her. And for her to have to ask me to do -- to take care of her was -- was a really big thing for us. Having to help her shower, having to help her go to the bathroom, having to help her eat. So after the surgery, it was a really big impact on us.

Q. Can you give us an example of other things

that you did for your mom during that time. Things that your mother couldn't do for herself.

A. Besides what I mentioned before?

Q. So at the beginning, after the surgery, was she able to shower herself, or did you help her?

A. No. I had to help her shower.

Q. Okay. How about eating? Would you have to help her with that?

MR. TINDALL: Objection. Leading.

THE WITNESS: Yeah.

THE COURT: Overruled.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. How about when it was time to get out of bed? Would you have to help with that?

A. Yeah. She wasn't able to get herself out of bed.

Q. Now, how long did this period last that you had to help her with all of these activities?

A. Looking back, it felt like a really long time. But that's probably because I was on winter break from school. So I was -- I was home all the time during that time after her surgery. So it felt like -- it felt like it was a long time. But I would say a couple of weeks was -- that it lasted that I -- I was having to do everything for her.

Q. Did you eventually notice that your mom got better after the surgery?

A. Yeah. Little by little. And after a time, I had asked her too if -- if she had felt a difference since -- since after the surgery -- I mean, since the surgery. And she said that she had felt like she was -- she was feeling better.

Q. Thank you, Emily.

Have you witnessed your mom be in pain after the accident?

A. Yeah. Plenty of times.

Q. Now, what are some of the things that she does that makes you realize she's in pain?

A. She's very outspoken. So if she doesn't verbally tell us that, then we know because she grunts. She grunts really loud. It's almost like -- like when someone knocks the air out of you. And she's just -- and it almost sounds like she can't breathe. And it's -- it sounds like the pain just like ...

Q. So you actually hear her grunt? Did you hear her grunt before the accident?

A. No. Never.

Q. Okay.

A. Never.

Q. Had she ever complained about pain before the

accident?

A. No.

Q. Thank you.

When the collision took place, do you remember what grade you were in?

A. It was my freshman year of high school, ninth grade.

Q. So you were towards the end of your first semester?

A. Yeah. So it was January at the end of my first semester.

Q. And how were you doing academically?

A. I was doing okay. Not too bad.

Q. Okay. How about your attendance? How was that?

A. I rarely missed school. It was maybe a couple of days.

Q. After the accident, did that change? Did your school -- was your schooling affected?

A. Yeah. Looking back on my transcript --

MR. TINDALL: Irrelevant, Your Honor. Objection.

THE COURT: Overruled.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. You may answer.

A. Looking back at my transcripts, there was -- there was a huge difference between my -- my first semester and my second semester. My second semester, I -- it was mostly Fs. And I missed maybe even more than a month of school. So it changed dramatically.

MR. MAZZEO: Objection, Judge. Speculation. Move to strike.

THE COURT: Overruled.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Did there come a point where you and your mother had to go see your counselor?

A. Yeah. Towards the end of my junior year, I thought about dropping out, because I -- I felt like there was -- there was no going back from, you know, having missed so much school and just not being able to focus in school.

MR. TINDALL: Move to strike. It's the same objection we had at the bench.

THE COURT: I don't know that this is relevant, so I'm going to sustain it on this issue.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Emily, do you know if your mom felt responsible for the way that you were doing in school?

A. Yeah.

Q. How do you know that?

A. When we had the meeting with my counselor --

MR. TINDALL: Same objection, Your Honor.

THE COURT: Different issue. I'm going to allow this.

THE WITNESS: When we had the meeting with my counselor, she expressed that she was -- that she felt, you know, guilty for -- for me having to not be able to focus in school. And it was -- it was very emotional for the both of us because we both had realized that, you know, not only had our life at home been affected, but my life, you know, outside of home had been affected as well. So that was really hard for me to have to think about dropping out of school to take care of things at home.

MR. TINDALL: Move to strike. Same objection.

THE COURT: Sustained.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Emily, I know it's been a long time since the accident took place, but how -- how would you describe your mom now? How do you think she's doing?

A. She's --

MR. MAZZEO: Objection. Vague.

THE COURT: She can answer to what she understands.

Overruled.

THE WITNESS: She's not as well as she was before the accident.

MR. MAZZEO: I'm sorry, Your Honor. Could you ask the witness to speak into the mic. She's talking to the side.

THE COURT: There's a microphone right there in front of you. Try to talk into the microphone so everybody can hear you. Keep going.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. So the question was, how is your mom doing now?

A. So she's not as well as she was before the accident. But slowly she's gotten a lot better. I mean, it was -- it was really bad after the surgery. And I honestly didn't think that we would have seen better days, because it was -- it was traumatizing to see her so -- so vulnerable and unable to do things. But she's gotten a lot better. And she's -- she's able to do a lot more things now.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Can you give us an example of the things that she does around the house?

A. She cooks dinner for us. She cleans her room. She cleans the kitchen.

Q. Are your sisters helping now?
A. Yeah. Yeah, it's more evenly parted now. So they're older. Sophia is now 14 -- or almost 14. And Lennay is 11. So they're able to do a lot more around the house.
Q. And how about the activities that you were telling us about? Is she able to go with you to Circus Circus or Grand Prix?
A. No. She's -- she's very fearful of hurting herself, so --
MR. MAZZEO: Objection, Your Honor, as to what she's thinks -- thinks is a frame of mind for someone else.
THE COURT: Sustained.
BY MS. RODRIGUEZ-SHAPOVAL:
Q. But has your mom ever gone with you to those places? Yes or no?
MR. MAZZEO: I'm -- what's the question?
MS. RODRIGUEZ-SHAPOVAL: Has her mom ever gone with her to those places.
MR. MAZZEO: At any time?
MS. RODRIGUEZ-SHAPOVAL: After -- right now, currently, after the accident.
MR. MAZZEO: Okay.
THE WITNESS: No. Now, for my -- for Sophia

and Lennay's birthdays, I'm the one that takes them out. So it's -- it's not so much of a family thing now, where we do things together. It's really just me and my sisters that go out and do things. So it hurts that she can't be able to participate in that stuff with us.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. And you also mentioned earlier that your mom used to throw big parties for you and cook a lot for everyone. Is she doing -- has she been doing that during the past five years?

A. No.

Q. Do you think your sisters are missing out?

MR. MAZZEO: Objection, Your Honor.

THE COURT: Sustained.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Do you see a difference between your childhood and what your mom was able to do for you and what your sisters are getting now?

MR. MAZZEO: Objection. Speculation. Foundation.

THE COURT: Overruled. She can answer.

THE WITNESS: Yeah. There's a big difference. They haven't been able to enjoy the parts of my mom that I have been able to.

MS. RODRIGUEZ-SHAPOVAL: Thank you, Emily. I have no further questions.

THE COURT: Mr. Mazzeo, cross?

MR. MAZZEO: Yes, Your Honor. Thank you.

MR. STRASSBURG: Judge, perhaps we should take a short break.

MR. MAZZEO: Emily --

THE COURT: You need a break.

MR. MAZZEO: -- do you need a break?

THE WITNESS: I'm okay.

MR. MAZZEO: You're okay to go on?

THE COURT: Some Kleenexes right here.

MR. MAZZEO: Okay.

May I proceed, Your Honor?

THE COURT: Yep. Go ahead.

MR. MAZZEO: Thank you.

CROSS-EXAMINATION

BY MR. MAZZEO:

Q. Emily -- can I call you Emily for the purposes of this testimony today?

A. Yes.

Q. Thank you.

So, Emily -- so I know you -- you started out testifying today that this accident -- you're 19 years

old now?
A. Yes.
Q. Right. And you were -- I believe you said you were -- was it 14 at the time of the accident?
A. Yes.
Q. You were in your first year of high school?
A. Yes.
Q. And from your -- what I gathered from your testimony is that you had a hard time remembering exactly the circumstances surrounding the accident and the events shortly after the accident. Fair enough?
A. Yes.
Q. Okay. And -- and you also don't have any firsthand knowledge of this accident that occurred with your mom and another vehicle; correct?
A. I'm sorry. Can you rephrase that.
Q. Yeah. You didn't actually witness the accident that your mom was in; right?
A. No.
Q. Okay. And did you know prior to testifying today that your mom had claimed that she wasn't injured at the scene after the accident?
A. No.
Q. Okay. And did you know that your mom was not treated by any medical professionals at the scene of

the accident?
A. Yes.
Q. Okay. So let's -- let's talk about your family for a few minutes. Now, your -- your full name is -- today you testified -- when you took the stand, you said you're Emily Garcia; correct?
A. Yes.
Q. And is your full name Emily Garcia Reyna?
A. Emily Marlene Garcia Reyna.
Q. Okay. And -- and so at the time, you were going to Legacy High School?
A. At what time?
Q. At the time of the accident.
A. No.
Q. Oh, you weren't. When did you start high school? What -- when after this accident did you start high school?
A. I was already in high school when the accident happened.
Q. Oh, okay. Did there come a point when you went to Legacy High School?
A. Yes.
Q. Oh, okay. And -- and your father is George Garcia?
A. Yes.

MS. RODRIGUEZ-SHAPOVAL: Objection. Your Honor, may we approach?

THE COURT: Sure.

(A discussion was held at the bench, not reported.)

THE COURT: Objection's sustained.

MR. MAZZEO: I'm sorry. I'm sorry, Counsel. Sorry one other thing.

(A discussion was held at the bench, not reported.)

THE COURT: Objection sustained.

BY MR. MAZZEO:

Q. Emily, so one of the -- one of the complaints that your mom had prior to the accident -- or actually after the accident was she complained about not having enough money to pay bills; is that correct? If you remember. If you know.

A. Yes. That I remember.

Q. Okay. And isn't it a fact that your mom had money concerns prior to the accident?

A. I can't remember prior.

Q. Okay. And do you recall testifying in a deposition on December 17th of 2013, Emily?

A. Yes.

Q. And do you recall being asked a question

about whether your mom had any concerns about money and being able to pay rent and utilities, et cetera, prior to the accident?

A. I'm sorry. What was the question?

Q. Do you recall being asked a question about whether your mom had any complaints and concerns about being able to -- about not having enough money to pay rent or other types of utilities prior to the accident?

A. Yes.

Q. Okay. And by the way, prior to your testimony today, is it -- would I be correct to say that you met with plaintiff's counsel?

A. Yes.

Q. At their office?

A. No.

Q. Okay. Where did you meet with them?

A. Starbucks.

Q. And how long did you meet for?

A. Couple of hours.

Q. Okay. And -- and who was the attorney you met with? Ms. Rodriguez-Shapoval?

A. No.

Q. Okay.

A. I'm sorry.

Q. Maybe you know her by the first name, Marisa.

A. Yes, Marisa.
Q. And aside from Marisa, did you meet with any other attorney at the time?
A. At what time? I'm sorry.
Q. At the time that you met at Starbucks to -- in anticipation of your trial testimony?
A. When exactly?
Q. Well, why don't you tell me when. When did you meet with Marisa at Starbucks?
A. Yesterday.
Q. Okay. And that's when. When -- when you met with Marisa at Starbucks yesterday, did you meet with any other attorney aside from Marisa?
A. No.
Q. Okay. And you met with her, you said, for a few hours?
A. Yes.
Q. And when you met with for a few hours, she told you -- she talked to you about your anticipated testimony at this trial; correct?
A. Yes.
Q. And she told you -- and she wanted to go over those topics with you that she would be discussing with you and -- and asking you about when you took the stand today; correct?

A. Yes.
Q. And -- and she had asked you a number of questions about -- she'd asked you questions about questions that she would ask you -- or strike that.
She told you questions that she would ask you about at the time that you took the stand today; correct?
A. Yes.
Q. Okay. And -- and when she asked you certain questions about what your testimony would be, you gave her responses; right?
A. Yes.
Q. And there were times during that meeting with her that she asked you the questions more than once. She asked you the questions several times; right?
A. Yes.
Q. Okay. And you responded each time?
A. No.
Q. Okay. You used -- you used a couple of words today, and -- and I was curious, as I was sitting there listening to you testify, whether those were your words or whether those were words that Marisa gave to you.
You said that you had -- that your bond with your sisters had changed. That bond -- that word "bond," is that something that you thought of or is

that something that was suggested to you at the time you met with Marisa?

A. I thought of it.

Q. And, now, is it correct to say that prior to -- oh, so -- and you know -- prior to testifying today, you know that your mom has a -- has a monetary interest in this lawsuit?

A. A monetary -- I'm sorry?

Q. Do you know what "monetary interest" means?

A. No.

Q. Okay. You know that your mom is seeking money as a result of this trial?

A. Yes.

Q. Okay. It's no secret; right?

A. No.

Q. Okay. And you know that prior to the motor vehicle accident -- or it's correct to say that, prior to the motor vehicle accident, you had chores around the house; right?

A. Yes.

Q. And isn't it a fact that, prior to the motor vehicle accident, you would normally be the first person up in the house?

A. Yes.

Q. Okay. And -- and that -- isn't it a fact

that your -- your mother would not help you with anything before you would leave for school in the morning? Is that a fact?

A. I wouldn't say it's a fact. I can't -- I can't remember.

Q. Can't remember. Okay. Okay. Do you recall -- at the time of your deposition, you gave testimony; right?

A. Yes.

Q. And -- and you had to go to a -- to an office, and you sat at a table, and there was a court reporter there; correct?

A. Yes.

Q. And -- and at the beginning of your deposition, you were you asked -- you were told to tell the truth; correct?

A. Yes.

Q. And you did tell the truth?

A. Yes, to as much as I could remember.

Q. Okay. Fair enough. And do you recall being asked the question -- at the time of your deposition, do you recall being asked that -- if your mom would help you with anything before you left to go to school, referring to prior to the motor vehicle accident? Do you recall being asked that question?

A. No. I don't recall.
Q. Okay.
MR. MAZZEO: Publish the deposition, please, for Emily Garcia.
THE COURT: You got it? It will be published.
MR. MAZZEO: And can that be shown to the witness, please.
THE COURT: Yep. Give her a second.
MR. MAZZEO: I know you have to cut it. I wasn't rushing.
THE CLERK: There's two volumes.
MR. MAZZEO: This is Emily. There's one for Emilia. It's for Emily, not Emilia.
THE CLERK: There's Volumes I and III for Emily.
MR. MAZZEO: Then it would be Volume I. Thank you.
THE CLERK: You're welcome.
MR. MAZZEO: No, this is Emilia. Yeah, I think Emily testified once.
BY MR. MAZZEO:
Q. Emily, did you -- how many times did you testify at a deposition? Just once; right?
A. Just once.

MR. MAZZEO: Just once.
THE CLERK: Her deposition's already published?
MR. MAZZEO: No. No.
THE CLERK: I don't have one for her.
MR. TINDALL: I have one, Your Honor.
MR. MAZZEO: Judge, we have a certified copy. Can I --
THE COURT: That will work.
MR. MAZZEO: That will work?
THE COURT: Can we publish a certified copy?
MR. MAZZEO: We can present the Court with --
MR. TINDALL: Here we go.
THE COURT: There you go, Emily.
THE WITNESS: Thank you.
MR. MAZZEO: All right.
THE COURT: Published the original. You have handed her the certified copy to use. That's fine.
MR. MAZZEO: Okay. Thank you, Judge.
BY MR. MAZZEO:
Q. Okay. Emily, I'm going to direct your attention to page 24, and we're going to start at line 14. And I'm going to ask you, do you remember being asked the following questions and giving the following responses:

"QUESTION: And I'm talking again before the accident. Okay. So would you get up before everybody else? Did you help with the other two girls?

"ANSWER: No.

"QUESTION: Would you get yourself ready for school?

"ANSWER: Yes.

"QUESTION: Did your mom help you with anything before you left to go to school?

"ANSWER: No.

"QUESTION: Were you gone before she even woke up?

"ANSWER: Yes."

Do you recall being asked those questions and giving those answers?

A. Yes.

Q. Thank you. Okay. You can close the booklet. Thank you.

Now, you -- I -- is it also correct to say that, prior to the accident, your mother would sometimes help your other sisters get dressed and get them breakfast?

A. Prior to the accident?

Q. Prior.

A. I believe so.
Q. Okay. And -- and so -- and I asked you sometimes. But she didn't usually do that; is that correct?
A. I'm not sure.
Q. Okay. And is it also correct that you would be home from school before your mother got home from work prior to the accident?
A. Yes.
Q. Okay. And is it a fact that you were responsible for your younger sisters after school prior to the accident?
A. Yes.
Q. And prior to the accident, you were the one who made sure that your sisters behaved; correct?
A. I'm sorry. What is your question?
Q. You -- you -- you were the one who made sure -- as the older sister, you made sure your sisters behaved prior to the accident?
A. Yes.
Q. Okay. And it was you, Emily, who got your sisters a snack after school; correct? Prior to the accident.
A. Sometimes.
Q. Okay. And it's also correct that your mom,

prior to the accident, she -- her work schedule was -- if you remember, she was working Saturday and Sunday; right?

A. Yes.

Q. And so isn't it a fact that you would watch your sisters on the weekends because your mom was at work?

A. Yes.

Q. Okay. And isn't it a fact that, prior to the accident, you would cook several nights a week or assist with -- or assist your mom in cooking?

A. Assist my mom with cooking?

Q. With cooking.

A. Not that I recall.

Q. Now, also prior to the accident, you and your mom would clean up after dinner; correct?

A. Yes.

Q. Now, before the accident, part of cleaning up means that you would help clean the dishes with your mom; right?

A. Excuse me. Yes.

Q. And also prior to the accident, you would help your mom clean the house; right?

A. Yes.

Q. And also prior to the accident, you would

help your mom empty the trash?
A. Yes.
Q. And as you testified to on direct examination, you would do your own laundry, right --
A. Yes.
Q. -- before the accident?
And then also prior to the accident, you would grocery shop with your mom; right?
A. I would go with her.
Q. Right. And, now, after the accident -- and I know it's been five years, a little over five years. So now, since the accident, you have cooked dinner; right?
A. Yes.
Q. And you have cleaned dishes in the house; right?
A. Yes.
Q. And you have cleaned the kitchen since the accident?
A. Yes.
Q. Okay. And what I mean by that is you do that on a regular basis, cleaning the kitchen?
A. When? I'm sorry.
Q. Well, when -- during the week and on weekends.

A. After the incident?
Q. Yes.
A. Yes.
Q. And you would also assist your mom in cleaning the house after the accident; correct?
A. Assist her in cleaning the house?
Q. Help your mom clean the house after the accident.
A. I would clean it myself.
Q. By yourself?
A. Yeah.
Q. Okay. You would clean -- you would -- you were responsible for cleaning the bathroom?
A. My bathroom, yes.
Q. Okay. And after the accident, you would still empty the trash; right?
A. Yes.
Q. And after the accident, you'd still do laundry; yes?
A. Yes.
Q. And after the accident, you would vacuum; right?
A. Yes.
Q. And after the accident, you would still grocery shop with your mom?

A. I would do the grocery shopping.
Q. By yourself?
A. She would take me. Whether it was her taking me to the store and waiting for me or going in there with us, but I would -- I would do the shopping.
Q. Okay. You'd do it, but your mom was with you? Sometimes in the car; sometimes in the store?
A. Yes.
Q. Okay. Now, before the accident, it's correct to say that your mom would wash herself; right?
A. I'm sorry?
Q. She would wash herself, shower and wash herself?
A. Prior to the accident?
Q. Yes.
A. Yes.
Q. And prior to the accident, she would dress herself?
A. Yes.
Q. And prior to the accident, she would go to work?
A. Yes.
Q. And she'd work all day?
A. Yes.
Q. And then -- and then she would work all week,

the five days out of the week --

A. Yes.

Q. -- right.

And she would drive a car; right?

A. Yes.

Q. And she -- when she drove the car, she would drive it to work; right?

A. Yes.

Q. And she -- after -- and then in addition to driving herself to work, she would also drive the car to the store; correct?

A. Yes.

Q. And she would drive to the park; correct?

A. If we didn't walk to the park, yes.

Q. Okay. Fair enough. Thank you.

Now, after the accident, it's correct to say that your mom would wash herself; right?

A. Yes.

Q. Okay. And what I mean is I know you had testified and told us that -- you gave us a specific time after the surgery where you had to assist your mom when she got back from the hospital; right?

A. Yes.

Q. And you said that that -- that was for, I guess, a couple of weeks when you were on Christmas

break --

A. Yes.

Q. -- right? Okay.

So that didn't go on for months; that was just for a week or two after the surgery?

A. Yeah, it was just after the surgery.

Q. Right. Okay. And just for a week or two after the surgery?

A. A couple weeks, yeah.

Q. Okay. So other than that time, from the time of the accident, January 2011, up until December of 2012, prior to the surgery, your mom would wash herself; right?

A. Yes.

Q. You didn't assist her?

A. No.

Q. Okay. And your mom would dress herself, correct, during that time?

A. Sometimes she had trouble with her shoes.

Q. Okay. But otherwise she would dress herself from January 2011, after the accident, up until prior to the surgery in December of 2012; right?

A. If there was something that she needed help with, I mean, other than if she asked for help, then, yeah, she would dress herself.

Q. Okay. And there were times when you weren't around where she had to dress herself; right?

A. Yeah.

Q. Okay. Yeah. As a matter of fact, most of the time during the week, during that same time period, you weren't assisting her in dressing herself; she was doing it herself. Right?

A. She was working during the week. I mean, I was always home when she was home.

Q. She was working during the -- no, I'm asking you about her dressing herself.

Most of the time between January of 2011 and December of 2012 your mom would be dressing herself, not with your assistance?

A. Yes.

Q. Okay. And after the accident, your mom continued working at -- at her job, right, at Aliante; right?

A. Yes.

Q. And -- and so -- and she would work there all day; right?

A. Yes.

Q. And she -- she'd work there all week as well; right?

A. Yes.

Q. And she would drive her car to work. Yes?
A. Yes.
Q. And she would drive her car back home from work. Yes?
A. Yes.
Q. And then she would also drive her car to the store for grocery shopping?
A. Yes.
Q. And in April do you recall -- after the surgery in April of 2013, do you remember you went with your mom -- I believe you went with your mom when she went to Texas.
A. Yes.
Q. She drove to Texas; right?
A. Yes.
Q. That was about three months after the surgery; right?
A. Yes.
Q. That was in the spring of 2013?
A. Yes.
Q. It's a pretty long ride; right?
A. Yes.
Q. Very long?
A. Yes.
Q. We're talking 13 hours long; right?

A. Yes.
Q. Sure. And -- and your mom drove the car; right?
A. Yes.
Q. You didn't drive the car?
A. I didn't. My cousin was with us. She drove some of it, but it was mostly my mom.
Q. Sure. And that was -- that was -- that trip to Texas in April of 2013 was to visit your grandmother --
A. Yes.
Q. -- right? Your mom's mother?
A. Yes.
Q. Okay. And that trip was two years after the motor vehicle accident; correct?
A. Yes.
Q. And then -- and then you had to turn around -- you were there for about -- what was it? -- a week? Nine days? Ten days, if you recall?
A. Around two weeks.
Q. Two weeks. And then you had to turn around.
And then your mom, you, yourself, your cousin drove back from Texas back to Vegas; right?
A. Yes.
Q. About the same length of time? 13-hour trip;

right?
A. Yeah.
Q. Okay. And, as a matter of fact, Emily, did you also again go to Texas -- shouldn't say "again."
Did there come time when you went to Texas the year before in 2012?
A. Yeah.
Q. That time, you flew to Texas; right?
A. Yes.
Q. And that was to visit your uncle?
A. Yes.
Q. Which would be your mom's brother --
A. Yes.
Q. -- right?
And she went with you and your sisters; right?
A. Yes.
Q. And your mother had no problem flying in 2012; correct?
A. Yeah, she did.
Q. But she did it. She actually got on the plane flew there; right?
A. She did it, yes.
Q. She did it.
And in connection with -- with your mom's

claim for which we are here at trial for, did you come to learn that your mom had a preexisting condition in her lower back?

A. No.

Q. Okay. Have you -- in the course of -- with regard to any discussions you've had with -- with any attorneys or -- or your mom with respect to this case, did she ever discuss with you her -- any physical condition that she had either before or after this accident?

A. Not that I remember.

Q. Okay. Now, at the time of the accident, you -- you-all -- you and your mom and your sisters lived in an apartment complex; right?

A. Yeah.

Q. The apartment complex had a swimming pool?

A. Yes.

Q. On direct examination you said that you like to go swimming; right?

A. Yes.

Q. And then in 2013 you, your mom, and your sisters moved from the apartment; right?

Do you not remember the date? And that's okay if you don't.

Did you ever move from the apartment?

A. Yes.
Q. Okay. You did.
And are you uncertain as to when? Maybe you're not certain if it was in 2013 or when it was?
A. The beginning of 2013.
Q. Okay.
A. Yeah.
Q. After her surgery. After your mom's surgery; right?
A. Yes.
Q. Okay. And when -- and you -- where you moved to, you moved to single-level home; right?
A. Yes.
Q. The home was larger than your apartment?
A. Yes.
Q. It didn't have a swimming pool?
A. No.
Q. Okay. So -- so after you moved there, you -- you didn't have the benefit of a swimming pool, at your new home, which you had at the apartment complex; right?
A. Yes.
Q. Okay. And so your home -- you actually had more space in this new home; right?
A. Yeah.

Q. And did you-all assist in helping move your belongings and your furniture from the apartment to the new home?

A. Yeah. I had friends from high school that -- they had trucks.

Q. Okay.

A. So they -- they did most of the -- the labor work.

Q. Okay. And this new home had a bigger kitchen than your apartment; right?

A. Yeah.

Q. And this new home had a dining room; right?

A. Yes.

Q. This new home had more space to clean; didn't it?

A. Yes.

Q. Okay.

A. I'm sorry. A dining room?

Q. Yeah, a dining room.

A. The -- the table was in the kitchen. So it was basically like a big kitchen where the table was, and then a living room separate.

Q. Okay. Like a --

A. So it was like two rooms.

Q. Like a kitchenette, sort of?

A. Yeah.
Q. Table's off to the side of the kitchen?
A. Yes.
Q. Okay. Now, you understand that your testimony is -- today is in support of your mom's claim; right?
A. Yes.
Q. And -- and you've spoken with your mom about testifying on her behalf; right?
A. Yes.
Q. And at any time did you tell your mom you didn't want to testify in court?
A. No.
Q. Okay. And -- now, you know that you've -- appreciate you coming today.
And you know that you've taken an oath to tell the truth today; right?
A. Yes.
Q. And did your mom tell you that she would give you some money after the -- from -- after the trial if you testified today?
A. No.
Q. Did she tell you she'd give you any money after testifying?
A. She told me that she would help with my

school.

Q. Okay. And, Emily, you love your mom; right?

A. Yes, I do.

Q. And, even before the accident, would you agree that it's been somewhat of a struggle growing up in a single-parent household with your mom?

A. Yes.

Q. Okay. And you know that you coming here today that your testimony will have an impact on the outcome of the lawsuit or the trial; right?

A. Yes.

Q. And you know that because you were told that; right?

A. No.

Q. Okay. You know, as you sit here, that -- that your -- your testimony might impact how much money your mom receives from this jury as a result?

A. No.

Q. Now, is it fair to say that you want to see your mom get money for being involved in this accident?

A. Yes.

Q. Okay. And is it fair to say that you want to see your mom get compensated only for the injuries that she sustained from the accident; right?

Or do you have not a -- or don't you have an

opinion about that?

A. No, I don't.

Q. Doesn't matter. Okay.

MR. MAZZEO: I'll pass the witness.

Thank you, Emily.

THE COURT: Mr. Tindall?

MR. TINDALL: No questions, Your Honor.

THE COURT: More from the plaintiff?

MS. RODRIGUEZ-SHAPOVAL: Yes, Your Honor. One second.

REDIRECT EXAMINATION

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Emily, Counsel asked you about our meeting at Starbucks yesterday.

A. Yes.

Q. Did I tell you what to say?

A. No.

Q. Did we talk about what you remembered?

A. Yes.

MR. MAZZEO: Objection. Leading, Your Honor.

THE COURT: Haven't suggested the answer. Overruled.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. I did tell you to tell the truth?

A. Yes.
Q. Is your testimony here the truth?
A. Yes, it is.
MR. MAZZEO: Objection. Your Honor, leading.
THE COURT: Overruled.
BY MS. RODRIGUEZ-SHAPOVAL:
Q. Emily, counsel also mentioned about your deposition.
How old were you when you gave your deposition?
A. Seventeen.
Q. And were you trying to be -- were you trying to give a testimony to the best of your memory?
A. Yes.
Q. Were you trying to be truthful?
A. Yes.
Q. He also asked you a question about a trip that you took to Texas April 2013.
Do you remember that?
A. Yes.
Q. Why did you go to Texas that year?
A. We got a call saying that my grandma was really sick, that she had not much longer to live.
Q. Thank you. He also asked you about another trip that you took to Texas in 2012 where you flew, you

and your mother.

Was she able to carry her luggage?

A. No.

Q. Who carried her luggage for her?

A. I did.

Q. Counsel also asked you about having -- about helping your mom around the house before the accident and after the accident.

Would your mom have been able to do everything herself before the accident?

MR. MAZZEO: Objection. Speculation.

THE COURT: The way you asked it, I'm going sustain the objection and have you rephrase it.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Did your mom ever ask you to help her because she couldn't do something herself?

A. Before the incident?

Q. Before the accident.

A. No.

Q. How about after the accident?

A. Yes.

Q. Emily, did your mom have any back pain before the accident?

A. No.

Q. Did your mom have any pain after the

accident?

MR. MAZZEO: Objection. Speculation.

THE WITNESS: Yeah.

THE COURT: Based on her prior testimony, I think she has an understanding. So I'm going to allow her to answer.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Did the accident completely change both your life and your mom's life?

MR. MAZZEO: Objection. Beyond the scope of direct -- or cross, Your Honor.

THE COURT: How it changed her life is not relevant. So I'm going to sustain it for now.

BY MS. RODRIGUEZ-SHAPOVAL:

Q. Emily, based on your observations, has the accident changed your mom's life?

MR. MAZZEO: Objection, Your Honor. Speculation.

THE COURT: I'm going to allow her to answer. Overruled.

THE WITNESS: Yes.

MS. RODRIGUEZ-SHAPOVAL: Thank you.

No further questions.

MR. MAZZEO: Nothing further, Your Honor.

MS. RODRIGUEZ-SHAPOVAL: Thank you, Your

Honor.

THE COURT: Mr. Tindall, anything?

MR. TINDALL: Nothing, Your Honor.

THE COURT: Ladies and gentlemen, any questions?

I'm not seeing any hands.

All right. Thank you. You're excused.

THE WITNESS: Okay. Thank you.

THE COURT: Come on up real quick, please.

(A discussion was held at the bench, not reported.)

THE COURT: All right. Folks, we don't have much time left. So I'm going to go ahead and just let you go a little bit early. Sorry. I know that's going to hurt everybody's feelings.

I think I can get done with my calendar tomorrow by 10:00. So let have everybody come in by 10:00.

During this evening you're instructed not to talk with each other or with anyone else, about any subject or issue connected with this trial. You are not to read, watch, or listen to any report of or commentary on the trial by any person connected with this case or by any medium of information, including, without limitation, newspapers, television, the

Internet, or radio. You are not to conduct any research on your own, which means you cannot talk with others, Tweet others, text others, Google issues, or conduct any other kind of book or computer research with regard to any issue, party, witness, or attorney, involved in this case. You're not to form or express any opinion on any subject connected with this trial until the case is finally submitted to you.

See you tomorrow at 10:00. Have a good night.

(The following proceedings were held outside the presence of the jury.)

THE COURT: All right. We're outside the presence. Anything on the record?

MR. ROBERTS: No. I think there's a request pending to have Scher taken -- S-c-h-e-r.

THE COURT: It's a doctor.

MR. STRASSBURG: He just landed. So he's here from Seattle right now.

MR. ROBERTS: So I believe there's a request to take him out of order in our case. And -- and we've agreed to that as a courtesy since he's got limited availability. So we'll be starting him at 10:00 tomorrow.

MR. MAZZEO: Roger. Starting Scher at 10:00

tomorrow morning.

MR. STRASSBURG: Right.

MR. MAZZEO: Yes.

MR. ROBERTS: Okay. And --

THE COURT: Is that going to take all day?

MR. MAZZEO: No.

MR. STRASSBURG: Well ...

They have it coming.

I don't think so, Judge. It depends on Mr. Roberts' cross. But, you know, usually these guys are like a four- or five-hour project.

THE COURT: So I guess my question is, if -- if he doesn't take the whole day, you have -- what do you have left?

MR. ROBERTS: We have clips of Ms. Awerbach. We have clips of Jared Awerbach. We have very a brief direct examination of Jared Awerbach. And we've got Emilia Garcia. And then we are ready to close our case.

THE COURT: Okay.

MR. ROBERTS: If not for the out-of-order witness, we would expect to close tomorrow. But ...

THE COURT: Okay. Well, you still may be able to if we get that witness on and off quickly; right?

MR. MAZZEO: Depends on your cross.

MR. STRASSBURG: Hey, Judge, as long as we're here, could we air out one other issue?

THE COURT: Sure.

MR. STRASSBURG: Dr. Scher is going to provide a technical opinion that covers both the accident reconstruction, the physics of that, the physical formulas that were utilized, the computer software that he used to -- to model this accident, which is then poured into his biomechanical analysis and opinion, and run through another piece of software that they use to model aircraft seats and seat belts and biomechanical modeling stuff, which is the basis for his opinions.

To assist the jury, we have -- actually, he has prepared a PowerPoint of 98 slides, which I don't believe that -- I see you laugh. I remember that case. I was here for that one, Judge -- which I don't know if he's going to use them all, but we believe it would assist the jury to be able to see a summary of his oral testimony after he's concluded it.

So what I was thinking of doing was -- and I know that the other side has objections, so I thought it would be good to talk about it -- is I thought I would ask him to describe a particular segment of his

work, and then I would bring up the slide and ask him if he can, you know, explain that it's an accurate summarization of the formulas that he's talked about and the photogrammetric analysis of the photographs, that kind of stuff.

Also, some of the slides are demonstrative, in that they set forth demonstrative evidence. It's already in evidence. Like, for example the vehicles. He did work using photogrammetrical analysis of photographs. That would be very helpful to the jury to have the photograph in front of them while he explains that. This is just to give you a sense of the nature of these slides.

So I have -- yesterday night, I disclosed the entire PowerPoint to the other side to -- to try to give them a full, fair opportunity to object -- to raise any objections that -- that they may have.

And so I just wanted to mention that now and just a preview of just the mechanics of what we would be doing tomorrow. And I'm trying to do it to save time as well.

THE COURT: Appreciate that.

MR. SMITH: I'm glad he brought this up. And I meant to -- and would have brought it up tomorrow, I guess. I forgot to bring it up today. So I'm glad

we're talking about it, because we do object to the entire PowerPoint.

An expert can't get up here and give a PowerPoint presentation. Let's start with that first. It's a 98-slide PowerPoint presentation.

THE COURT: I'm not going to let him just get up and talk for 98 slides, but if he uses them as he just indicated, he's going to ask questions, and then he's going to put the PowerPoint up to demonstrate what the person is talking about and have them say whether or not that summarizes what they talked about --

MR. SMITH: Let me address the specifics of what's in it, because the specifics of what is in the PowerPoint is -- almost all should be excluded.

First, there are a number of medical opinions in his PowerPoint that apparently he intends to give. There's an order from this Court on December 31st, 2014, excluding Dr. Scher from offering any medical opinions. That is a large portion of his PowerPoint.

There are many, many demonstratives in his PowerPoint that, in addition to relating to these medical opinions, are not in his report. And he can't use demonstratives that aren't in his report and that he didn't rely upon to offer his opinions that -- that have nothing to do with his opinions.

In addition, he can't put text up on the screen and show the text to the jury, essentially reading his conclusions and writing. That's exactly the same thing that counsel objected to with our doctors and our experts. They weren't allowed to read from their reports. So he can't put his reports up on the screen.

He also has a number of opinions in his PowerPoint that are not in any of his reports. So, for example -- to give you one example -- and I'm not going to go through every single of the 98 slides. But to give you one example, he claims in his PowerPoint that he saw an exemplar of Mr. Awerbach's vehicle.

In his report, he never mentions an exemplar of Mr. Awerbach's vehicle. He doesn't include any pictures of an exemplar of Mr. Awerbach's vehicle. Yet in his PowerPoint, there are a number of slides where he claims to have inspected an exemplar vehicle, because he didn't inspect Mr. Awerbach's vehicle, and where he takes pictures of a vehicle that were never previously produced to us.

There are many other opinions in the PowerPoint, including rebuttal opinions to one of our experts, et cetera, that are part of his reports. And he can't expand on the scope of his reports at trial.

So I don't -- maybe Your Honor wants to take it on a case-by-case basis or you want a list from me in the morning of what's inappropriate or maybe what's appropriate.

There are a few that they can use. They can use pictures of the vehicles. We don't have a problem with that. They can use a couple of the slides that they used in opening, because I think Your Honor already allowed them. Those are the slides of his ultimate conclusion that the activities of daily living exerted less force on Ms. Garcia's spine than the motor vehicle accident.

They can't use spine models. He can't talk about the way that a spondylolisthesis works. He includes in his PowerPoint medical journal articles. He also includes other articles that -- that he claims are related to this and related to his field, but he can't show the jury the articles he's relying upon.

I think I have made the point clear that the vast majority of what's in there is not appropriate. The things that are in there that were used in opening and that don't relate to medical opinion, we don't object to. That's like pictures of the vehicle, and then there's a couple of diagrams from his report.

The remainder of it's brand-new. New

diagrams showing what a brand-new analysis is and all of the other things I talked about, those they can't use. And that's the vast majority of the slides.

MR. STRASSBURG: Well, after 32 years of doing this work, I -- I guess maybe I don't know what I'm doing. But I can tell you, Judge, that I have put biomechanical accident recon guys on the stand before, and Scher's opinions are within normal limits. We are doing it by PowerPoint in an effort to try to speed this process along.

I'm happy to provide -- and you'll be getting these PowerPoints. I mean, they'll come up on your screen along with it, so there won't be any secrets.

This idea that he is going to offer medical opinions, you know, there they go again, Judge. We've had this argument with them for two years. And the ruling invariably is that biomechanical engineers can offer medical opinions about causation of injury.

And Scher, even throughout his deposition, he says, "Well, I'm not offering a medical opinion." And he's not offering a medical opinion. He's offering opinions that biomechanical engineers offer about how the forces, physical forces of the collision, affect the human body and what aspect -- you know, what form those effects take.

Judge, this is -- this is all compelled by Hallmark. Hallmark has provided a roadmap for the presentation of all kinds of scientific evidence that will assist the jury, and we will provide testimony that hits all the factors of Hallmark so you can satisfy your gatekeeping function to make sure that Dr. Scher's opinions are based upon solid science, objective physical principles, properly applied.

As to showing journal articles, you know, Mr. Smith -- again, the -- the articles were just shown, little snips, the title page, just to show the jury they exist. He's going to tell them the titles, and that's it. It's just to show that the testimony he's providing, the methodology he utilizes is supported by sound science published in peer-reviewed journals with the Society of Automotive Engineers that validated, tested, and uses this software.

The demonstratives that have nothing to do with the opinion, well, Judge, I have gotten to know you over these last three weeks, and I think I can pretty much foresee what you're going to do to me if I try to offer demonstratives that don't have anything to do with the subject of the expert's opinion.

And, you know, Judge, I join you in condemning that kind of conduct, and I hope you spank

me hard if I'm foolish enough to try something like that.

That's about all I got to say, Judge. I guess we'll have to wait on the day to see what --

THE COURT: Here's what my suggestion would be. Because, I mean, I'm not going to let an expert just get up there and start talking and teaching --

MR. STRASSBURG: Judge, I'm going to ask him questions.

THE COURT: Okay. Give me a hard copy of his PowerPoint slides before we start.

MR. STRASSBURG: Yes, sir, I will.

THE COURT: And before you put something up, let's -- I guess we may have to talk about each one.

MR. STRASSBURG: Do we have a -- we don't have a remote for the TV, do we?

THE COURT: It's not my TV.

MR. MAZZEO: You mean for the PowerPoint?

MR. STRASSBURG: Can you black out that screen so I can show everybody in the room except the jury the image?

MR. MAZZEO: You can do that on your own computer. You can take it off the main screen and just have it on yours.

MR. SMITH: If we each have a copy, you can

tell us what slide number it is and we can reference it as well.

MR. STRASSBURG: That's fair.

MR. MAZZEO: And, Judge -- well, just -- so, Judge, you're not -- okay.

MR. TINDALL: Did Your Honor mean one at time as he's on the stand, or did you mean one at a time prior to him getting on the stand?

THE COURT: I'm thinking while he's on the stand.

MR. TINDALL: Okay.

MR. STRASSBURG: I'm thinking that too, Judge, because I may skip some.

MR. SMITH: So we're going to have 90 objections?

MR. MAZZEO: Well, yeah, that --

THE COURT: Long day, isn't it?

MR. MAZZEO: I don't think that's -- that's what --

MR. STRASSBURG: Judge --

MR. MAZZEO: -- what we anticipated.

MR. STRASSBURG: Judge, just so you know, this is the key defense witness. This is the guy that says that accident didn't create physical forces that were any greater than the forces her spine had gotten

used to in the 30 days -- 30 years of daily living. So this is the one they've got to kill.

MR. MAZZEO: And also, Judge, Mr. Smith has no legal basis to -- to preclude the diagrams to the extent that this will assist the trier of fact, the jury, in understanding the methodology, the findings by the expert. So it's certainly within the province of what Dr. Scher can do. He can use diagrams.

As a matter of fact, I think plaintiff took artistic license with a diagram of the back and surgical procedure, where they actually put words in it that were not on the actual film. And we took issue with it, we objected. You permitted that because it was a matter of -- it was just artistic matter of interpretation, and he could be cross-examined on it.

So I have seen the slides, and they will assist the trier of fact. So I don't --

THE COURT: I haven't seen them.

MR. MAZZEO: I know you haven't seen them, but I don't want to have to run up there 96 times. My legs will get tired. I think it will interrupt the flow and the testimony of this -- of this expert witness.

So if you get the slides beforehand, I would like a preliminary ruling at least on which slides you

are --

THE COURT: I don't know that we need 96 slides during the witness's testimony. But if -- if you want to use 96 slides, we may have to come up every time so -- if there's an objection to them.

MR. STRASSBURG: Judge --

THE COURT: Sorry, guys.

MR. STRASSBURG: Judge --

THE COURT: I'm not going to rule in advance that you can put 96 slides up.

MR. STRASSBURG: Judge --

THE COURT: I haven't seen them.

MR. STRASSBURG: Judge, I'm not asking you to do that, and I appreciate your willingness to keep an open mind. If a picture is worth a thousand words, we have got a million words here that won't have to be spoken. So it can save some time. It can aid the understanding of the jury, assist their comprehension, of the issues.

THE COURT: I understand the arguments, guys. Give me a hard copy tomorrow, and let's deal with them as they come up.

MR. SMITH: Can I ask you one question?

THE COURT: That's all we can do.

MR. SMITH: Not about a specific slide, but a

majority of our objections are going to be related to these being opinions that are not in his report.

Would it help you to have his report to assist in determining whether the objection is appropriate or not?

THE COURT: You guys know the report a lot better than I do. You're going to be able to point me to where it is or where it isn't.

MR. STRASSBURG: And, Judge, there's more than one, and it has a technical addenda which is really scintillating stuff.

THE COURT: Yeah. If it's not in the -- if you object it's not in the report, you're going to have to show me that it is. And, again, it's going to be a long day, it sounds like.

MR. ROBERTS: I'll wear my Fitbit.

THE COURT: Have a good night, guys. Off the record.

MR. ROBERTS: Thank you, Judge.

(Thereupon, the proceedings concluded at 5:04 p.m.)

CERTIFICATE OF REPORTER

STATE OF NEVADA)
) ss:
COUNTY OF CLARK)

I, Kristy L. Clark, a duly commissioned Notary Public, Clark County, State of Nevada, do hereby certify: That I reported the proceedings commencing on Wednesday, February 24, 2016, at 9:06 o'clock a.m.

That I thereafter transcribed my said shorthand notes into typewriting and that the typewritten transcript is a complete, true and accurate transcription of my said shorthand notes.

I further certify that I am not a relative or employee of counsel of any of the parties, nor a relative or employee of the parties involved in said action, nor a person financially interested in the action.

IN WITNESS WHEREOF, I have set my hand in my office in the County of Clark, State of Nevada, this 24th day of February, 2016.

Kristy Clark

KRISTY L. CLARK, CCR #708

CASE NO. A-11-637772-C

DEPT. NO. 30

DOCKET U

DISTRICT COURT

CLARK COUNTY, NEVADA

* * * * *

EMILIA GARCIA, individually,

Plaintiff,

vs.

JARED AWERBACH, individually; ANDREA AWERBACH, individually; DOES I-X, and ROE CORPORATIONS I-X, inclusive,

Defendants.

REPORTER'S TRANSCRIPT

OF

JURY TRIAL

BEFORE THE HONORABLE JERRY A. WIESE, II

DEPARTMENT XXX

DATED THURSDAY, FEBRUARY 25, 2016

REPORTED BY: KRISTY L. CLARK, RPR, NV CCR #708, CA CSR #13529

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I N D E X

LAS VEGAS, NEVADA, THURSDAY, FEBRUARY 25, 2016;
10:50 A.M.

P R O C E E D I N G S

* * * * * * *

THE COURT: Bring the jury in.

THE MARSHAL: Jury entering.

(The following proceedings were held in the presence of the jury.)

THE MARSHAL: Jury is present, Judge.

THE COURT: Thank you. Go ahead and be seated, folks. Welcome back. We're back on the record, Case No. A637772.

Do the parties stipulate to the presence of the jury?

MR. MAZZEO: Yes, Your Honor.

MR. STRASSBURG: Yes, Your Honor.

MR. ROBERTS: Yes, Your Honor.

THE COURT: Sorry for the delay, folks. We had some technical difficulties we were working through.

We are still in the plaintiff's case. The plaintiffs have not rested. They still have additional witnesses, but we have a defense witness that has to be

on today. So we're going to take that witness out of order is my understanding.

So, Mr. Strassburg, who's your witness?

MR. STRASSBURG: Jared Awerbach would call Dr. Irving Scher from Seattle, Washington.

Dr. Scher?

THE COURT: Come on up, sir. I'll have you step all the way up on the witness stand. Once you get here, please remain standing, raise your right hand, and be sworn.

THE CLERK: You do solemnly swear the testimony you're about to give in this action shall be the truth, the whole truth, and nothing but the truth, so help you God.

THE WITNESS: I do.

THE CLERK: Please state your name and spell it for the record, please.

THE WITNESS: Irving Scher. I-r-v-i-n-g. Last name is S-c-h-e-r.

THE COURT: Thank you.

Go ahead, Mr. Strassburg.

DIRECT EXAMINATION

BY MR. STRASSBURG:

Q. Dr. Scher, what did I engage you to do?

A. To do two parts of an analysis, an accident reconstruction analysis; that is, to figure out what happened to the vehicles in the accident. And then a biomechanical engineering analysis, which is what happened to the occupants during the accident.

Q. And how old a man are you?

A. I'm 42.

Q. Where are you from?

A. I live in Seattle, Washington.

Q. Okay. Do you have any education that was useful to you in performing the assignment that I gave you?

A. Yes.

Q. And would you share that with us?

A. Sure. I went to undergrad at the University of Pennsylvania -- that's in Philadelphia -- where I majored in mechanical engineering and applied mechanics. I got a minor in chemistry there.

And then I went to UC Berkeley, where I studied mechanical engineering. And I got my master's and PhD at Berkeley. My concentrations were in dynamic systems -- that's how objects move and how they interact -- and biomechanics.

And then, after that, I was an adjunct professor at USC for a period of time. And now I'm

part of guidance engineering up in Seattle, Washington. But I'm also part of the applied biomechanics lab at the University of Washington.

Q. And in your education at -- what was it? -- the University of Pennsylvania?

A. Yes.

Q. And in Philadelphia?

A. That's right.

Q. What was your grade point?

A. It was a 3.58.

Q. And what were the courses that you were taking in which you earned that 3.58 out of 4?

A. Standard mechanical engineering courses: statics, dynamics, strength of materials, physics. It was very heavy in math as well. I also took a number of courses in chemistry, for example, organic chemistry and physical chemistry.

Q. And in your postgraduate program, did you get grades in that program at Berkeley?

A. I did.

Q. And what was your grade point?

A. It was a 3.71.

Q. Out of?

A. Out of 4.

Q. Now, you mentioned a word, "biomechanics."

Would you tell us what you mean by that?

A. Sure. Biomechanics is the study of the human body as a mechanical system. So it's essentially applying the principles of engineering mechanics to biological systems of the human body.

Q. All right. And do you have a illustration of an example of a human body performing a load-bearing activity that might be relevant to explain how you applied biomechanics in this case?

A. Yes.

MR. STRASSBURG: Permission to show Slide 3?

MR. ROBERTS: No objection, Your Honor.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. And please explain how this slide illustrates the application of biomechanics that you performed for this case.

A. Sure. In this picture we have an individual during one of these strongman competitions lifting an atlas ball, a very big, heavy ball. And as a biomechanical engineer, the first thing that goes through my mind is there are huge loads on the lumbar spine.

Because if you look at what's happening as a mechanical system, you have the muscles in the back

pulling with a very short lever arm on the vertebrae. Then you have this large mass very distant from the what is essentially the fulcrum. And it's very heavy, very long lever arm. And those have to balance at least quasi-statically.

And so what you wind up finding out is that the forces from the muscles on the lumbar spine compress the lumbar spine with very, very large loads.

Q. Now, I see that you've utilized a male illustration in this. This case involves, as you know, a female.

Can you give us a verbal illustration of how these would apply in the case of, say, a female?

A. Sure. For example, if a woman is lifting an atlas ball, that would be the same type of analysis. But it applies to lifting any object, whether it's a box, a bag of coins. If a woman is pregnant and has a child, and that child is going to be distant from the spine, that mass over that long lever arm is going to create large loads on the lumbar spine.

It's the same type of analysis.

Q. And, obviously, as we saw yesterday, Ms. Garcia has been pregnant on three occasions.

A. She has.

Q. Okay. And how would you characterize the

loads on the lumbar spine that a typical pregnancy would impose?

A. In general, they would be higher than one would expect. Loads on the lumbar spine tend to be higher than I think people realize in general.

Q. Well, now, you mentioned a lever, a fulcrum.

Would -- would the loads from carrying a child to term -- would it just be the weight of the child or would it be less or more?

A. It's the weight of the child plus the upper body. All of the mass that's above the level of the lumbar spine that we're interested in would come into play.

Q. Now, do -- does biomechanics that you are in, does it concern itself with injury?

A. It does.

Q. Now, as a biomechanical engineer, when you use the term "injury," do you use it the way a physician does or in some other -- with some other meaning?

A. No. As a biomechanical engineer, when I think of injury, I think of damage to structures of the body, so physically breaking a bone or tearing a ligament or evulsing part of a ligament off of a bone.

Medical doctors include pain as injury. And

because that's subjective, we don't deal with that in biomechanical engineering.

Q. You just deal with facts?

A. Just with the objective damage to the structures of the body.

Q. Now, do you have a illustration with you that would enable you to illustrate for us how biomechanics principles are applied to the study of injury as biomechanical engineers like yourself understand that term?

A. Yes.

MR. STRASSBURG: Permission to show Slide 4?

MR. ROBERTS: No objection, Your Honor.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. Now, I'm showing you Slide 4. You have brought a -- a picture of what appears to be an X ray or some medical imaging and a list of relationships.

Can you explain to us with this illustration how biomechanics studies this relationship between the physical forces and injury as biomechanical engineers understand that term?

It's sort of like damage -- yeah, it's sort of damage but not pain; right?

A. That's correct.

Q. Okay. Go ahead.

A. So as an injury biomechanist, I look at the relation between mechanical loads and damage to the structures of the body.

And so if you look on the right-hand side of the slide, you'll see an X ray of the tibia and fibula. That's the shin bone and the small bone that goes on the outside of the tibia. And the two orange circles indicate fractures of those bones. It happens to be what's called a spiral fracture of the tibia and fibula.

And the mechanism is -- and this is where the biomechanics becomes important. It's a torsion, a twisting of the tibia that creates this type of spiral fracture. And we know that from biomechanical engineering studies. We also know from these biomechanical engineering studies how much torque it takes and how to try to prevent that.

In this case it was a ski that did not release during a twisting fall, and so the bindings actually allowed too much torque to be applied to the tibia. And as injury biomechanists, we want to try to prevent that torque from being applied.

So it's not just analyzing accidents afterwards for, say, the purpose of litigation. It's

actually to improve safety, and that's the main focus of injury biomechanics.

Q. Now, when -- when you say the term "mechanism," how do biomechanical engineers, when they analyze human systems, use the concept of a mechanism?

A. The mechanism here is the forces, the torques, and the directions of those forces and torques as they apply to the structures of the body and would those forces and torques create the damage that we're seeing.

For example, in this slide, if there were a large compressive load instead of a torsion, the fracture would be different or maybe the person wouldn't have been injured. So we know what load was applied to the tibia in this case, in the picture, based on the fracture itself.

Q. And have you applied the term -- the concept of tolerance in -- in performing a biomechanical analysis?

A. There are a lot of different ways to do that. There are biomechanical engineering studies that look at how much force, how much torque it takes to create damage to tibia, to vertebrae, to different structures of the body. But there's another way of doing it as well, and that's to look at what forces the body can

withstand or resist under normal activities. And you can use that as a lower limit for what the body can tolerate.

Q. Without injury?

A. That's right.

Q. All right. And then injury severity, how do you factor that into a biomechanical analysis?

A. Sure. Essentially, if you have 10,000 pounds applied to a structure versus 2,000 pounds, the 10,000 pounds will have more likelihood to create damage and would likely create more damage. So it's the relationship of the amount of force, the amount of torque to the amount of damage.

Q. Okay. Now, the factor of likelihood, how do biomechanical engineers use that idea in performing the kind of biomechanical analysis that you did in this case?

A. We use what's called a factor of risk analysis. Essentially, you have some level that you choose as the tolerance value or the amount of force or torque that the structure can withstand. And then you look at the loads that are applied in the activity that you're interested in, and you see what percentage of the tolerance value you come to.

If it's less than 1, injury likelihood is

low. If it's greater than 1, it's high. And if it's much greater than 1, then injury likelihood is very high.

Q. And does the biomechanical analysis of likelihood -- does that have anything to do with epidemiology?

A. No, it does not.

Q. What does it have to do with?

A. This is a relationship between forces. Certainly you can have likelihoods from epidemiology.

Epidemiology is the study of injuries and illness and the rates that they occur at. So it's essentially statistics. This is different. This is forces and the relationship of forces.

Q. Now, Dr. Scher, are you just a hired gun for lawyers to bring into court, or do you do biomechanical engineering outside the litigation context?

A. Most of my time is spent doing other activities, other biomechanical engineering endeavors. Litigation takes up maybe 30 to 40 percent of my time depending on, you know, the week that we're in.

Q. So what other kind of biomechanical work do you do that's got nothing to do with litigation?

A. My main focus is snow-sport and water-sport safety. So I look at how injuries are created during

skiing and snowboarding and water sports like waterskiing, wakeboarding, and things like that. And I do a lot of research and try to promote safety in those areas.

I happen to be one of the two U.S. representatives for snow-sport safety in the ISO and the scientific chairman for the International Society for Ski Safety. Things like that. So that's what most of my time is taken up with.

Q. So can you tell us what makes Lindsey Vonn so fast?

A. She's good.

Q. Okay. Now, in your -- Guidance Engineering, who founded that company?

A. Me and two other people.

Q. And what does it do?

A. We do engineering consulting work. We do engineering analyses for cases like this. But we also do a lot of research for product development, for snow-sport safety, water-sport safety, things of that nature as well.

Q. Do you have any experience providing -- doing accident reconstruction and biomechanical analyses with respect to automobile accidents?

A. Yes.

Q. Tell us that.
A. I have done automobile crashes, analyzed them for, jeez, about 10 or 11 years now. And while it's not the main focus of my work, the same principles that apply for preventing injuries in recreational sports apply to motor vehicles as well.
Q. And what are the scientific disciplines that one must master to do a valid accident reconstruction?
A. I think you have to have a good understanding of physics, mechanics in general, and you have to be reasonably good at math.
Q. And do you have any licenses as an engineer?
A. I do.
Q. And what are they?
A. I'm a professional engineer in the state of Washington, California, and Alaska.
Q. And what is your discipline?
A. Mechanical engineering.
Q. And how long have you been a licensed PE in those states?
A. I think starting in 2004. But I could be wrong on that date. I think that's what it is.
Q. And have you practiced mechanical engineering for biomechanical purposes ever since your licensure?
A. I have.

Q. Now -- and have you had occasion to submit yourself to a court of law for qualification as an expert in biomechanics on prior occasions?

A. I have.

Q. And have you been so qualified?

A. I have.

Q. Now, one of the issues I want to get out of the way first is, do you see that there is a difference between what biomechanical engineers such as yourself --

Oh, I should ask, how come you don't have a license in biomechanical engineering?

A. There's not one offered. There is no PE discipline of biomechanics.

Q. So does that mean biomechanics isn't like a real science?

A. No, it's real. There are departments all over and universities all over the country that study this. There are divisions of the National Institute of Health that deal with biomechanics. You know, Harvard has a program. Stanford has a program. Penn has a program, University of Washington.

This is a real discipline. It just doesn't happen to have a PE license for it.

Q. And do biomechanical engineers ever work in

industry, or do they just work in consulting?

A. Well, they do both.

Q. Could you give me some examples of the application of biomechanical engineering in industry that we might be familiar with?

A. Sure. I have friends who work for a company that does restraint systems, so airbags and seat belts for fire trucks and ambulances. And those biomechanists look at safety in those vehicles.

I have friends who do medical devices. So whether it's a stent or a hip replacement or a knee replacement, helping to design those and make them better for the end user.

So these are all biomechanical engineers in industry.

Q. Now, viewed biomechanically, does the human -- is the human body subjected to the same physical forces and laws as any inanimate physical system is, or are there different ones that are special to the body?

A. It's the same laws of physics. The same laws of physics apply to cars, people, animals, everything.

Q. Okay. As I promised now, could you explain -- I get -- do you see any difference between what biomechanical engineers do and what physicians do

when it -- when it comes to determining the cause of injuries?

A. Yes.

Q. And could you describe for us that difference?

A. I can. I have an illustration, I think, that will help describe it better, if it's okay to show that.

MR. STRASSBURG: Fair enough. Permission to show Slide 5?

MR. ROBERTS: Objection. Hearsay. Incorrect statement of the law.

THE COURT: Come on up.

(A discussion was held at the bench, not reported.)

THE COURT: Objection is overruled. You can show Slide 5.

BY MR. STRASSBURG:

Q. Dr. Scher, without treading into the medicine, can you use this slide to describe for us how biomechanical engineering perceives the difference between what it does and medicine?

A. Sure. So the way I like to describe this is, going from the upper left in the slide where it says "event" to the bottom right in the slide that says

"outcome." I usually like to lay these out one at a time.

So if we have some type of event -- whether it's an auto accident, someone skiing, someone walking, whatever it is, they trip, they fall, they land on something -- during that event, there are forces and motions, forces upon the individual and motions created from the forces and their actions. Those forces and motion cans create injury.

And here -- this is a broader sense of injury. This is not just damage to the structures of the body. It could also be pain. There could be some problem. And the person needs to figure out what's wrong and how to get better. They need to get diagnosed and treated to get to an eventual outcome. Hopefully they have the same function, the same abilities as they had before the event.

The link between the event and the injury and specifically damage to the structures of the human body, that's biomechanical engineering. The forces, the motions, looking at the physics of what happened, the physics for the person.

After the injury, the diagnosis and treatment, that's not biomechanical engineering. That would fall under the category of medicine. That's what

medical doctors do, not biomechanical engineers.

Q. Now, did you perform an analysis of the forces and motions involved in Ms. Garcia's accident on January 2nd, 2011?

A. I did.

Q. And what is the difference, as you see it, between forces and motion?

A. Motions are generally how different body parts move specifically relative to one another, and force is -- as we all take the term "force" -- would mean having something press on or -- or shear or move -- or not move, but apply a force, apply a physical force to a structure.

Q. Now, just as a preview of where we're going in all this, I'd ask you, have you come to any conclusions about this accident based upon your biomechanical engineering?

A. Yes.

Q. All right. And can you preview for us, real short, just quick, what those conclusions are?

MR. ROBERTS: Objection. Foundation.

THE COURT: I think I have to sustain that at this point.

MR. STRASSBURG: Okay. All right. Before we get into these bases for his opinions, I move that he

be recognized by the Court as an expert in biomechanical engineering.

MR. ROBERTS: No objection, Your Honor.

THE COURT: He'll be so recognized.

MR. STRASSBURG: Thank you.

BY MR. STRASSBURG:

Q. Now, in performing your analysis, did you utilize a particular methodology?

A. I did.

Q. And is the methodology you use one that you cooked up on your own, or is it a standard analysis procedure in biomechanical engineering?

A. It would be standard for analyzing the biomechanics of a motor vehicle accident.

Q. And has it been recognized by many professional organizations outside the litigation context?

A. Yes.

Q. Explain.

A. For example, the government, through NHTSA, the National Highway Transportation Safety Administration, they actually analyze a certain number of accidents per year and they use the same methodology that I used in this case.

Q. All right. And you performed two types of

investigations?

A. It has two parts, yes.

Q. And what were they?

A. The accident reconstruction part, that's what happened to the vehicles. And the biomechanical engineering part, that's what happened to the people.

Q. In this case Ms. Garcia?

A. That's right.

Q. And when you analyze biomechanically what happened to her, what level of specificity did your analysis -- was it powerful enough to take you to? Was it just the gross level of her body or more particularized to parts of her body?

A. Not sure I understand your question.

Q. I don't blame you.

Did you -- what I meant was, did you just look at how her body moved, or did you look at how her spine moved?

A. I look at how her body moved and how her spine moved.

Q. All right. And how were you able to do something like that?

A. So using the accident reconstruction to figure out what happened to the vehicles, I was then able to use a computer simulation using a software

package that is standard in the biomechanical engineering community. And I looked at what happens to the occupants or someone of the same height and weight as Ms. Garcia with the vehicle moving how it did in the accident.

Q. And did you perform any analysis of forces?

A. Yes.

Q. Would you tell us what?

A. Sure. Using that same computer package, it actually provides information about the forces and the torques that occur at various levels of the spine. So I'm able to get forces from the accident, and then I compared them to forces of other activities and looked at the difference between the two force levels.

Q. These other activities like what?

A. For example, walking or picking up a 20-pound box or package or picking up a 25-pound bag of coins, things like that.

Q. And did you make any attempts to double-check your work?

A. I did.

Q. How did you do that?

A. I looked at the national databases, specifically the one that I mentioned a few minutes ago, the one from NHTSA, and I wanted to see if there

were similar accidents; and, if there were, would they have injuries that are being claimed in this case.

Q. And when you did your accident reconstruction analysis, did you do -- make any efforts to check your work on that?

A. I did.

Q. How?

A. I used a two-part analysis series. The first was I analyzed the motion of the vehicles themselves using a software package called PC-Crash, and I imagine we'll get into that. And then I checked the work with a basic set of hand calculations using crush energy, and they matched up very well.

Q. All right. And is there a slide that you have that summarizes what we've just covered?

A. There is.

MR. STRASSBURG: Permission to show 7?

MR. ROBERTS: No objection.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. Why don't you come down here. Do you mind?

A. I don't mind.

Q. Right here, please, and let's just make sure -- all right. Now, is this the roadmap for your entire presentation?

A. It is.
Q. Okay. So when we get to here, are you done?
A. I'm done.
Q. Okay. Now, in performing the accident reconstruction analysis, what were the -- the -- what was the data that you utilized to -- to do this with respect to the motions of the vehicles?
A. Well, sure. Pretty much everything that you provided me. So there were deposition testimonies; there were repair estimates; photographs of the vehicles. I went to a satellite imagery to get what the roadway look like, the measurements of the roadway, things of that nature. And then I took vehicle-specific information -- for example, wheel base and weights of the vehicles -- and --
Q. Which vehicles?
A. The Hyundai Santa Fe that Ms. Garcia was driving and the Suzuki Forenza that Mr. Awerbach was driving. And --
Q. Well, wait a minute. Do you -- did you actually look at the vehicles involved in the accident?
A. No, I didn't personally inspect the physical -- physically, the vehicles. I used the photographs in a process called photogrammetry to look at what the damage was on the vehicles.

Q. All right. And did you do anything to check the results of your photogrammetry analysis of the actual photographs of the actual vehicles?

A. I'm sorry. One more time.

Q. Okay. How did you use the photogrammetry analysis? Did you just look at the vehicles in the crash report or did you look at other vehicles as well?

MR. ROBERTS: Objection. Beyond the scope of his report.

MR. STRASSBURG: This is the exemplar.

THE COURT: Come on up for a minute.

(A discussion was held at the bench, not reported.)

MR. STRASSBURG: I will withdraw the question.

BY MR. STRASSBURG:

Q. Now, in your biomechanical engineering analysis, when you looked at the motion of her body, how did you relate that to lumbar spine forces in the accident?

A. Sure. So when I did the analysis using the program called MADYMO, it actually provided the motions and the forces on the lumbar spine in the simulation itself.

Q. Okay. And when you did the analysis of the

motions of the vehicles, did you use computer software or did you do that by hand?

A. Both.

Q. And the software?

A. The software is a program called PC-Crash. It allows you to do the balance of linear momentum, the balance of angular momentum, the conservation of energy quickly and easily, easier than I can do it by hand. So I can do a number of parameters and look at how they affect the motion of the vehicles?

The hand calculations parts were the crush analysis to check that the PC-Crash model was giving me results that I could believe in.

Q. Okay. So to get to here, motions of the vehicles, that's the PC-Crash part.

A. That's correct.

Q. Then to get to here, B, 1B, that's the crush energy analysis by hand that you did.

A. That's right.

Q. Okay. And then you take those results, and you pour them into here, which is the MADYMO software; right?

A. That's right.

Q. All right. And then how do you -- and that gets you to B, which is the lumbar spine force from

this particular accident; right?

A. That's right, on someone of the same height and weight as Ms. Garcia.

Q. All right. And then how do you get from the results of the MADYMO analysis of spine forces to the lumbar spine force from other activities?

A. Sure. For that, it's essentially the method that I was talking about earlier where the person was lifting the Atlas ball, but there's a piece of software that I use that does those calculations for me very quickly, and it's called Michigan 3D.

And so I put in the various positions and forces that someone of Ms. Garcia's size would have to lift or would be lifting or moving, and then it would provide me with the forces on the lumbar spine.

Q. So when you say other activities, you don't mean in this accident; you mean before this accident?

A. Before and after.

Q. All right. Like activities of daily life; right?

A. That's right.

Q. Now, when -- after you get the results from your analysis for lumbar spine force from this accident, your analysis for lumbar spine force from the other activities of daily living before the accident,

then how do you get to part D, the comparing the forces?

A. Sure. As the name implies, you compare the two. What we know is if the spine can withstand the forces of the everyday activities without creating damage to the structures of the spine, then it should be able to withstand those same forces or lower forces in the accident.

Q. So is it like if you can run a mile, well, then you can run half a mile?

A. Sure. Yeah.

Q. All right. And, then, how did you get from the comparison of forces to checking the national databases?

A. Sure. So my result for 2D, the comparison of forces, said that the likelihood for injury was very low. The forces from the subject accident -- well, we'll get into that. But I then wanted to check with the NASS/CDS database -- that's the NHTSA database -- to see if, in fact, accidents like this would be likely to create this damage. And the answer was no, it's not likely.

MR. ROBERTS: Objection. Foundation.

THE COURT: I'm going to sustain that at this point.

BY MR. STRASSBURG:

Q. All right. Let's get started.

Okay. Great. Thank you. Thank you very much.

Now, let -- let me just talk again about this concept of force comparison. Remember we just covered that?

A. Sure.

Q. Do you have an illustration with you that explains how you utilize this comparison of forces to come to the conclusions you're going to express here today?

A. Yes.

MR. STRASSBURG: Permission to show Slide 8?

MR. ROBERTS: No objection.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. All right. Would you explain to us, and -- and maybe you ought to come down here just so we can -- it seems to be quicker if we do it this way.

Could you explain to us how this illustrates the logic you employed of your -- with your force comparison.

A. Sure. So the idea is that the forces preaccident from activities of daily living, if those

were applied to the lumbar spine, then the structures of the spine, the ligaments, the muscle, all of it could resist those forces without damage. So that's --

Q. How do we know that?

A. Because we know she doesn't have pain, she doesn't have any problems before the accident.

Q. All right. So let me get this straight. Did you do any bone-sampling of her spine to see how strong her bones were?

A. No.

Q. Did you do any, like, analysis of the degree of deterioration of the bones of her spine to see how strong they were?

A. No.

Q. And did you do any analysis of the disks in her spine to see what their, like, frictional coefficient was?

A. That doesn't make any sense, but no.

Q. Don't beat around the bush, Doctor.

A. Sorry.

Q. You know, if you got a comment, just hit me.

All right. So did you -- did you do -- do any analysis to see what condition her facets were in to -- you know, for her particular spine?

A. So I did review the medical records. I did

look at what was in there. But this force comparison does not require that. We know that her spine could resist the forces of activities of daily living before the accident. So that gives us a -- a bound that we know below that level the spine should be able to resist the forces.

Q. All right. And so, then, of what relevance is it to you, the forces on her spine from the accident?

A. Well, if the forces from the accident are lower than the forces that can be resisted by the spine, then it would not create damage to the spine.

MR. STRASSBURG: Permission to show 9.

MR. ROBERTS: Objection to foundation, Your Honor, particularly the green arrow within the yellow arrow. No foundation for that.

THE COURT: There's not. Sustained.

BY MR. STRASSBURG:

Q. Okay. So if the -- the logic, then, is that, if her spine was strong enough to resist and manage the forces that it had gotten used to over the 30 some-odd years of her life -- right? -- then you know that, just by logic, that therefore the spine had to have the strength to summon up at least a resistive force equal to those forces from preaccident activities of daily

living; right?

A. That's right.

MR. ROBERTS: Objection. Leading.

MR. STRASSBURG: Summaries, Judge.

THE COURT: It was leading, though. Sustained.

MR. STRASSBURG: Was summarizing -- I'll shut up.

BY MR. STRASSBURG:

Q. So what is your logic, then, fitting into this image of how you then take the -- the output of your calculation or the forces on the spine from this accident, how do you relate that to this logic here on the screen?

A. I think we've said it a few times, but if the forces in the accident are lower than the forces that the spine can resist, then you're not going to create spine damage.

MR. STRASSBURG: Permission to show Slide 9 now?

MR. ROBERTS: Same objection, Your Honor.

THE COURT: I don't know what the forces from the accident are. You haven't laid that foundation yet. Sustained.

MR. STRASSBURG: Never mind. Okay.

BY MR. STRASSBURG:

Q. All right. Let's begin.

Let me direct your attention to your accident reconstruction analysis. You with me?

A. I am.

Q. Okay. And we start with the vehicles in the collision. What vehicles did you analyze?

A. A 2001 Hyundai Santa Fe and a 2007 Suzuki Forenza.

Q. And did you perform any analysis of the actual vehicles in the accident?

A. No. This is not with the actual physical vehicles that were involved in the accident.

Q. What did you use in their place?

A. Computer models and exemplar vehicles and data specific to the vehicles in the crash.

MR. ROBERTS: Objection. Move to strike just one portion of that, Your Honor.

THE COURT: Let's just talk about the exemplar of the Santa Fe.

MR. STRASSBURG: Judge, the Suzuki exemplar inspection was from --

THE COURT: Come on up, guys, if we're going to have a little discussion.

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(A discussion was held at the bench, not reported.)

THE COURT: Objection is overruled.

MR. STRASSBURG: All right. Permission to show Slide 12?

MR. ROBERTS: No objection.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. All right. Would you describe for us the vehicles that you analyzed both photographically and as exemplars?

A. Yes. These are just generic pictures of the two vehicles -- or the make and model and year of the vehicles involved in the crash.

Q. All right. And is the analysis of exemplar vehicles a recognized technique in your discipline?

A. It is.

Q. Has it been validated by peer-reviewed scientific studies?

A. It has.

Q. And has that borne out the test of time?

A. It has.

Q. And is the analysis of photographs of vehicles involved in accidents for the use in accident reconstruction, is that a legitimate standard technique

in your discipline?

A. It is.

Q. And has it been the subject and validated in peer-reviewed scientific investigations and studies?

A. It has.

Q. And has it borne the test of time?

A. It has.

Q. And did you use them both?

A. I did.

Q. All right. In -- in doing your analysis, what relevant facts about the accident did you harvest from your review of the records?

A. The accident occurred January 2nd of 2011, at about 6:00 p.m. It happened about 100 feet north of Peak Drive on Rainbow Boulevard. We had Ms. Garcia in her Santa Fe traveling south at approximately 30 miles per hour in what we call the No. 1 lane. So there's five lanes, two in each direction and then a middle lane, a turn lane, if you will. She's in the left lane of the two.

At that time and location, we have Mr. Awerbach coming out of Villa Del Sol. He's going to go northbound on Rainbow, so he's making a left turn. And his -- the front of his Suzuki contacts the passenger side rear, so the rear door area, of

Ms. Garcia's vehicle.

Q. Okay. And did you harvest any information about the rest location?

A. Yes. Ms. Garcia testified that she spun around and was facing the opposite direction at the end of the event.

Q. All right.

A. Or I should say her vehicle was facing the opposite direction.

MR. STRASSBURG: Permission to show Slide 13?

MR. ROBERTS: No objection.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. Is Slide 13 an accurate summary for us of the information that you just testified to that you harvested from your review of the records?

A. Yes.

Q. And the sources of the information are set forth on this slide?

A. They are.

Q. Now, what information did you harvest regarding the Suzuki?

A. That it was making a left turn, it contacted the Santa Fe, and then it could not be moved afterwards.

MR. STRASSBURG: Okay. Permission to show 14?

MR. ROBERTS: No objection.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. Does 14 accurately summarize the information you harvested from -- regarding the Suzuki?

A. Yes.

Q. And the sources of that information set forth at the bottom?

A. Yes.

Q. All right. Now, after you got this information, particularized, as you say to the -- to this particular accident and vehicles, what types of vehicle motion did you analyze?

A. In general, we break down motion into two categories: linear motion and rotational motion.

Q. And, like, why do you do that?

A. Well, they're different, and you need to treat them as different. So you have to as an engineer.

MR. STRASSBURG: Permission to show Slide 15?

MR. ROBERTS: No objection.

THE COURT: That's fine.

/////

BY MR. STRASSBURG:

Q. Now, does Slide 15 accurately depict, generically, for -- for a generic vehicle, these two types of motion?

A. Yes, although it doesn't really show the initial positions shaded out as I would have hoped.

Essentially, linear motion, for the left-hand part of the slide, the car is going to the right. So you're moving along in a straight line.

Rotational motion, on the right-hand side of the slide, is the vehicle spinning around.

Q. Is -- is there a physical, scientifically described process that would account for how Ms. Garcia's vehicle would be subjected to rotational motion?

A. Well, the physics drives it, yes.

Q. All right. And did you -- did you undertake any considerations of center of mass or center of rotation of these vehicles or not?

A. I did.

Q. And how did that factor into your just overall assessment?

A. Sure. The force applied to the Santa Fe did not go through its center of mass. It was actually behind its center of mass and at an angle. So the

force that was applied to the vehicle created a lateral force, so a linear motion related to that.

And then that same force created what we call a torque -- so it's a force over a moment arm -- that created a rotational motion of Ms. Garcia's vehicle at the same time.

Q. All right. Now, in -- in doing a -- did you do a quantification of these motions and forces?

A. I did.

Q. What was your first step in performing that quantification?

A. The very first thing is to look at the vehicles, the photographs, the repair estimates, things of that nature.

Q. All right. And what is the purpose of that -- that analysis? What's the overall logic that you're going to use to perform your first calculation?

A. Well, the first thing that I need to do is to be able to line up the vehicles. I need to be able to match up the -- the damage areas between the two so we can see how they contacted.

Q. All right. Now, did you perform any analysis of the difference between the velocity of the vehicles after the collision compared to before?

A. Yes.

Q. And why was that important to you?
A. That difference between just prior to the collision and just after the vehicles separate, the change in velocity, what we call delta-v, is a good indicator of accident severity when there's not intrusion into the seated area. So if -- if the door doesn't crush in and hit someone, then delta-v is a good indicator of severity. And that's why we look at it.
MR. STRASSBURG: Permission to show Slide 16?
MR. ROBERTS: Objection to the extent this is intended to show the actual locations of these vehicles. No objection if you are simply demonstrating to the jury where he placed them in his analysis.
MR. STRASSBURG: I agree.
THE COURT: Okay. That's fine.
BY MR. STRASSBURG:
Q. Now, how does Slide 16 illustrate the analysis you performed in calculating this quantity, delta-v?
A. This slide is simply showing what we mean by delta-v or change in velocity.
So in the left column, we have just prior to impact, each vehicle has initial velocities; during the impact, there's forces between the vehicles that

accelerate the vehicles; and then after the impact, they separate, and each has its own velocity afterwards.

The difference between the final velocity and the initial velocity, we call that the change in velocity. And, again, that's a good indicator of accident severity.

Q. Now, look, Doctor, really, who you trying to kid here? Even I know that after vehicles collide, there is no acceleration; there's only deceleration. I mean, what are you talking about here?

A. In engineering, we use "acceleration" for both positive and negative. So positive acceleration you might call normal acceleration, and a negative acceleration you might call deceleration. But in physics and engineering, we just call it acceleration.

Q. Okay. Now, what about this final velocity? Isn't this just zero?

A. After the cars come to rest, yes. But immediately after separation of the two vehicles, no, they're not zero.

Q. And does the delta-v measure between, like, a little bit before a collision compared to the final velocity -- or final rest place or a little bit after the collision?

A. It's just before and just after vehicle contact.
Q. And why is that helpful to you?
A. Again, it's a good indicator of how severe the accident is.
Q. Now, has the utilization of delta-v to determine accident severity for biomechanical analysis, has that been recognized in your discipline as the standard technique?
A. Yes.
Q. Has it been the subject of peer-reviewed scientific articles validating its accuracy?
A. Yes.
Q. And has it been utilized outside the litigation context, or is it just for courts and lawyers?
A. No, we use it in general too.
Q. Yeah, like what?
A. For example, the NASS, the NASS database, they indicate delta-v in the accidents that they analyze. Again, it's an indicator of severity.
Q. Okay. But -- okay. So it's close enough for government work.
But what makes you think it's close enough for you to swear to in a court of law?

A. I'm not sure what you mean by "close enough."
Q. What familiarity do you have with the validity studies of delta-v?
A. Well, delta-v is just a metric, a number that we have as part of our analysis. So it's -- it's just part of an analysis. It's not valid or invalid.
Q. And how would you characterize the scientific studies that have validated its use in the way that you used it here? Are they extensive? Are they sparse? Are they questionable? What are they?
A. If you look at the motor vehicle accident reconstruction literature, you'll find the term "delta-v" and that metric used all over. It's very common. We've been using it for a long time in the community.
Q. Does it represent the predominant school of thought, the vast majority school of thought, or is it kind of a close-to-the-minority position?
A. I think just about everyone uses it.
Q. Okay.
THE COURT: You at a good breaking point, Mr. Strassburg?
MR. STRASSBURG: Yeah. If you want, sure. Go ahead.
THE COURT: I have a meeting at noon.

MR. STRASSBURG: No problem. I'll stop wherever you want.

THE COURT: Let's go ahead and take our lunch break, folks. We'll go till 1:15. I'll be back before then.

During our break, you're instructed not to talk with each other or with anyone else, about any subject or issue connected with this trial. You are not to read, watch, or listen to any report of or commentary on the trial by any person connected with this case or by any medium of information, including, without limitation, newspapers, television, the Internet, or radio.

You are not to conduct any research on your own, which means you cannot talk with others, Tweet others, text others, Google issues, or conduct any other kind of book or computer research with regard to any issue, party, witness, or attorney involved in this case.

You're not to form or express any opinion on any subject connected with this trial until the case is finally submitted to you.

Before you leave, let me just ask you, does anybody have a problem if we were going to start at 8:30 tomorrow morning? Anybody have to take kids to

school or something that 8:30 is a problem for them?

Because I told you we have to end early at 2:00 o'clock, and we're just going to kind of go through. So I'm thinking, if we start at 8:30, we can maybe take a 15-minute break about 10:00 or 10:30, another 15-minute break around noon or so, and go till 2:00.

I think that's what our plan is going to be as long as we have witnesses here.

All right. Thank you, folks. See you back at 1:15.

(The following proceedings were held outside the presence of the jury.)

THE COURT: All right. We're outside the presence of the jury.

Anything we need to put on the record, Counsel?

MR. SMITH: I would like to make a record about the discussion of the exemplar vehicle.

THE COURT: Okay.

MR. SMITH: I think Your Honor should not allow a discussion of it as we go forward. And let me explain why.

THE COURT: You want to leave our witness here, or should we excuse him? Do you care?

MR. SMITH: I think we can leave him here because, if the Court changes its ruling, then he'll be aware of the ruling.

THE COURT: Okay.

MR. SMITH: The first time we were ever provided notice of there being an exemplar vehicle of the Suzuki Forenza was when we received the 98-page PowerPoint a day or two ago.

Mr. -- or Dr. Scher referred to exemplars when he was on the stand today, and Mr. Roberts made an objection to that. We approached the bench and were later -- in a later approaching of the bench were given page 56, line 11, of Dr. Scher's deposition as the proof that we had been told in the past about the exemplar of the Suzuki because there clearly is no mention of an exemplar of the Suzuki in any of his reports.

Page 56, line 11, of the deposition does not talk about an exemplar. And let me read the entire section of that deposition that would explain to the Court what was being discussed. And it starts on line 7, again, page 56.

"So if we look at Table 2 on page 5 of that same report, those crush depths, plural, are estimates?

"ANSWER: That's right. And this is just one example going from zero inches -- sorry -- I'm looking at the column that says '2007 Suzuki Forenza,' and you see the C1 through C6 in the left column?

"QUESTION: Yes.

"ANSWER: So those are estimates of the crush depth starting from zero at one end to 4 inches of depth at the other end.

"QUESTION: And those are straight from the photographs; right?

"ANSWER: Those are from photographs and an exemplar inspection.

And if you look at Table 2 on page 5 of the report, which we were discussing, Table 2 includes values from both of the vehicles.

So when he says "photographs," plural, he's talking about photographs of both of the vehicles because that is all Dr. Scher had in his possession about the Suzuki at the time.

And then when he says "exemplar," singular, he must be talking about the exemplar of the Santa Fe because, at that point in time and until we started trial, there was never a discussion of an exemplar of the Suzuki Forenza.

And keeping in mind, Your Honor, that's an 89-page deposition where I was allowed to ask questions before I was cut off with a time limit. And then counsel for the defendants was entitled to ask questions as well. And there is absolutely no discussion of exemplars, plural, or any exemplar of the Suzuki Forenza in that deposition.

And Your Honor made a comment at the bench that maybe the comment in the -- in the deposition about exemplars, plural, is vague. But it's not. It's "exemplar." And even if it was vague, there's no follow-up in the deposition. There's no mention of it in the deposition.

And what they intend to do today is put up pictures of an exemplar Suzuki that we've never been given before and then provide the jury with measurements of that exemplar vehicle that we've also never been given before and that are not in either the deposition or in the reports.

So the jury can't be provided information today that Dr. Scher did not have and did not rely upon when he produced his reports and made his opinions. And -- and if he did have that information or relied upon it, then he had to have given it to us by the time he authored his opinions. And as you would expect, his

report includes a list of what he relied upon, and there is no exemplar of a Suzuki.

Again, we learned about this a couple days ago, and we were given these pictures -- or maybe it was even yesterday, but within the last couple of days. It's the first time we were ever given any of these pictures or measurements.

MR. STRASSBURG: Judge, Dr. Scher was deposed by Mr. Smith on March 4, 2015. Reading from page 42, line 2.

"QUESTION: Besides testimony from Ms. Garcia and Mr. Awerbach and pictures of the vehicles, what information do you actually have?

"ANSWER: Repair estimate for her vehicle; satellite imaging -- imagery that gives me information about the location; information from the accident report; data from crash tests run by NHTSA, of course; the laws of physics, but I think that's a given; certainly information regarding other vehicle parameters from, say, places like expert auto stats and things of that nature. I forgot exemplar vehicles. Sorry. Yes, there's also undamaged vehicles that are substantially similar to the

vehicles involved in this accident."

MR. SMITH: And I took that in the deposition as a general statement of what he relies upon, but he had not provided us with the pictures and the measurements. And nowhere in here or anything is there a discussion of the pictures and the measurements that he's now claiming he relied upon to offer his opinions.

So even if there was a use of a plural -- and I apologize. They didn't give us that page when we were up there. But if you look at that, that's a section about every -- the types of things that he relies upon and -- and what he would rely upon.

And even if he was talking about the specific one, he still has to have told us what his measurements were so that we could provide them to our own rebuttal expert, which we have, to actually go through and do his calculations.

He didn't have any of that, and he can't spring new pictures and -- and new data on us at trial. And that's what they intend to do, not just discuss even that he looked at an exemplar, that the exemplar is the basis for his analysis, here's the measurement that he did, here's the photographs he relied upon, all things that we weren't provided until the last couple of days.

MR. STRASSBURG: Judge, not so. The photograph of the Suzuki exemplar is in Dr. Scher's file that was produced. He'll be calling it up from the server and can submit that to you.

MR. SMITH: I have a flash drive that he gave me at his deposition on my computer that does not have any of that. And that was his entire file, and that's what was attached to his deposition.

So I disagree with Mr. Strassburg, and I would ask him to prove when was that ever given to us. We have -- they gave us his flash drive twice. We have the originals. I have a copy on my computer. I went through it after we got that slide show in order to verify. That is not on there, and I'm happy to show that file to the Court.

MR. STRASSBURG: Do you have it?

THE COURT: So let me ask -- Dr. Scher, I'm going to ask you a question. In your August 21, 2014, report, you have a section entitled "Inspection of an Exemplar Hyundai Santa Fe."

Do you have a section in either of your reports that deals with an inspection of the other exemplar vehicle?

THE WITNESS: No, Your Honor.

THE COURT: Why?

THE WITNESS: I hadn't done the inspection at the time the report was issued.

THE COURT: When did you do it?

THE WITNESS: Sometime after -- there was a report and rebuttal to Dr. Freeman, and that's when I went and got the Suzuki Forenza exemplar.

THE COURT: Was it before your October 10, 2014, report or after?

THE WITNESS: It would be after the three reports.

THE COURT: Was it before or after your deposition?

THE WITNESS: Before my deposition.

THE COURT: I mean, I think that the deposition says that there are -- I mean, it says that there are exemplar vehicles that he relied on.

I mean, whether or not he can use photographs and measurements that weren't disclosed is a different issue. I mean, I don't have a problem with him saying that he relied on exemplar vehicles. But I think, if he has specific measurements, it probably should have been disclosed.

MR. STRASSBURG: Well, Judge, I want to be entirely fair to the plaintiff in a case like this.

Dr. Scher, can you give your opinions without

recourse to photographs of the exemplar Suzuki?

THE WITNESS: I believe so, yes.

THE COURT: Yeah, let's just --

MR. STRASSBURG: Fair enough.

THE COURT: Let's have him offer his opinions without talking about the measurements or without the pictures of the exemplar to the Suzuki.

MR. STRASSBURG: Fair enough. I'm fine with that, Judge.

THE COURT: I think that's more fair based on the fact that they're saying that this is something that they haven't seen before.

MR. STRASSBURG: More fair is always better, Judge.

THE COURT: I try.

MR. STRASSBURG: Hey. All right.

THE COURT: Is that all we need to do?

MR. SMITH: Yes, Your Honor.

THE COURT: All right. Off the record.

(Whereupon a short recess was taken.)

(The following proceedings were held outside the presence of the jury.)

THE MARSHAL: Remain seated. Come to order.

THE COURT: We ready?

MR. SMITH: We have one thing to ask about.

THE COURT: Hold on. We're missing somebody. Where is Mr. Mazzeo?

MS. ESTANISLAO: He is on his way.

THE COURT: Are we waiting for him?

MS. ESTANISLAO: No. You may proceed.

THE COURT: You're okay arguing for him?

All right. Let's go back on the record, then. We're outside the presence.

What do you got?

MR. SMITH: Before we took a break, Dr. Scher mentioned a rebuttal to Dr. Freeman, a report that he wrote. And that is not something that we received.

THE COURT: Okay.

MR. STRASSBURG: What do you mean by this rebuttal?

THE WITNESS: Maybe I misspoke, but it was a rebuttal to him. It was a report detailing some of the arguments against me being able to testify. I attribute that to Mr. -- or Dr. Freeman, but I guess maybe it wasn't Dr. Freeman. Maybe it was plaintiff's counsel.

MR. SMITH: So, then, that would be the response that he made to our Hallmark motion. And -- and we also don't think that anything in his response to the Hallmark motion that isn't in his earlier

reports is admissible, because once we file the Hallmark motion, he can't supplement his opinions based upon our arguments.

THE COURT: Probably true. It's got to be in the reports or the deposition. Limit him to that.

MR. SMITH: Okay.

THE COURT: Anything else?

MR. SMITH: That was it.

THE COURT: We ready to go or we going to wait for Mr. Mazzeo?

MS. ESTANISLAO: No, we're ready to go.

THE COURT: Ready to go? Okay. Let's go.

THE MARSHAL: Jury entering.

(The following proceedings were held in the presence of the jury.)

THE MARSHAL: Jury is present, Judge.

THE COURT: Thank you.

Go ahead and be seated.

Back on the record, Case No. A637772.

Do the parties stipulate to the presence of the jury?

MS. ESTANISLAO: Yes, Your Honor.

MR. ROBERTS: Yes, Your Honor.

THE COURT: Thank you.

Doctor, just be reminded, you're still under

oath.

Go ahead.

BY MR. STRASSBURG:

Q. Dr. Scher, describe for us, please, the inputs that you utilized to put into the PC-Crash modeling software that you used.

A. Sure. PC-Crash uses vehicle-specific information for the vehicles in this accident, and then it uses speeds and angles of the vehicles relative to one another and the orientation of the vehicles.

Q. Okay. And after you input that into PC-Crash, what are the outputs of PC-Crash?

A. The rest positions of the vehicles, the vehicle motions over time. So it integrates the equations of motion forward in time from the accident through to when the vehicles come to rest. It gives the speeds and rotations for the vehicle. And it also gives the damage energy. So that's the energy attenuated or absorbed by the vehicles to create the damages to the vehicles in the accident.

Q. Do you use generic vehicles or do you use the actual ones involved in this accident?

A. The information for the vehicles is case-specific. So it's vehicles involved in this accident.

Q. All right. Did you use any information from the Santa Fe?

A. Yes.

Q. Could you describe it, please.

A. Sure. I assume you mean the subject Santa Fe. And for that, we used the damage information to figure out where the vehicle was hit. So that's the photographs and repair estimates.

Q. Did you make use of the damage photographed?

A. I did.

MR. STRASSBURG: Permission to display 30?

THE COURT: Any objection to 30?

MR. ROBERTS: Let me flip forward to it, Your Honor.

No objection, Your Honor.

THE COURT: Okay. Go ahead.

BY MR. STRASSBURG:

Q. What use did you make of the information on Slide 30?

A. So here we see the rear passenger door on the Santa Fe. We can see the damage to the bottom portion to --

Is it okay to point to some things on the screen?

Q. Come on down.

A. Here we see -- doesn't show up too well on this screen, but there is damage here on the bottom portion of the door. You can see this contact transfer mark. There's damage to the rocker panel. You can see the tires flat.

So the impact is along this section of the vehicle from about the end of the driver's door over to the wheel.

Q. Where is the center of gravity or center of rotation on the vehicle?

A. It's going to be closer to the center of the vehicle. If you were to look along the line, I would say in between the front and back door, it's going to be in that ballpark, maybe a little bit forward.

Q. Okay. And what's the significance of that offset between the place of impact and the center of rotation? Stay there, would you, Doctor.

A. It basically means that, because the force is not through the center of mass, it's going to create rotation, it's going to create a torque about the center of mass of the vehicle. So the vehicle's going to rotate during the accident.

Q. All right. Do you have occasion to review anything else about the damage to the Santa Fe?

A. There was a -- a damage estimate, a repair

estimate, for the vehicle as well.

MR. STRASSBURG: Permission to show 32?

MR. ROBERTS: Sorry. Thirty --

MR. STRASSBURG: 32.

MR. ROBERTS: No objection.

THE COURT: That's fine.

BY MR. STRASSBURG:

Q. Please describe the use you put to this information.

A. So the damage estimate matched up well with what they saw in the pictures. It showed what parts the vehicle would need to be repaired, replaced. And so the front right rocker panel -- or I'm sorry -- rear rocker panel would have to be replaced, the doors. There would be refinishing of the quarter panel. And then the right rear wheel had damage. So there was contact to the wheel that also damaged the suspension components too. So that was all consistent with what we see in the pictures.

Q. All right. You mentioned the term "exemplar." Define that.

A. An exemplar vehicle is essentially a like make, model and, if not the same year, then what we call a sister clone. So, basically, the vehicles from a manufacturer may be the same for multiple years. So

if you have a 2001 in an accident, the 2002 and 2003 may be the same. It's called a sister clone.

Q. Did you make any use of that information for your analysis here?

A. Yes. For the check portion of my analysis.

MR. STRASSBURG: Permission to show 33?

THE COURT: Any objection to 33?

MR. ROBERTS: No objection.

THE COURT: Go ahead.

BY MR. STRASSBURG:

Q. Explain the use you made of information from the exemplar.

A. We don't see it in this picture, but there's others where I have tape measures in the picture, and I have measured components of the vehicle.

MR. STRASSBURG: Permission to show 34.

MR. ROBERTS: No objection.

THE COURT: That's fine.

THE WITNESS: Here we go. So we actually get a measure of distance that we can then use to do photogrammetry with the actual pictures of the subject vehicle, the vehicle that was in the accident. And, just as important, we get a measure of distances here that we can look at for the accident vehicle so that we can say there is this much space from the back of the

front door to the tire. That's 50 inches. And we'll -- I'll show you why that's important and interesting in a minute.

MR. STRASSBURG: Permission to show 36.

THE COURT: Any objection to 36?

MR. ROBERTS: Yes, Your Honor. I believe beyond the scope of his report. That's --

THE COURT: Come on up.

(A discussion was held at the bench, not reported.)

THE COURT: So I'm going to sustain the objection on the foundation ground only.

BY MR. STRASSBURG:

Q. Okay. Would you explain, Doctor, how you utilize your analysis of measurements of the vehicle, this 50 inches, to make a determination of crush?

A. Sure. The process is called photogrammetry. So I took pictures of the subject vehicles that we had that were given to me and then pictures of the exemplar vehicle, and knowing lengths, so distances, in the pictures of the exemplar, I can match them up and, with the aid of a computer, figure out how much deformation there is in the vehicle, the subject vehicle, the accident vehicle.

Q. Prepare an illustration to show the results

of your calculations from a perspective that will make them meaningful?

A. Yes.

MR. STRASSBURG: Permission to show 36.

MR. ROBERTS: No objection, Your Honor.

THE COURT: Go ahead.

BY MR. STRASSBURG:

Q. Explain 36, please, how that illustrates what you just described.

A. Sure. We see a top-down view of a schematic of a Santa Fe. And in orange I have drawn in what I think is the damage profile for the Santa Fe. And you can see it goes across the 50 inches that I showed you in the picture a few minutes ago.

And what is labeled from left to right going with the arrows above the 50 inches is the amount of crush into the vehicle -- that's permanent deformation of the vehicle -- that was produced in the accident.

Q. Did you perform any analysis of the front of Mr. Awerbach's Suzuki?

A. Yes.

Q. Describe.

A. I think the -- that it would be easiest to show a picture of the vehicle and show how it matched up in orientation with this, using the picture.

MR. STRASSBURG: Permission to show 37?
MR. ROBERTS: No objection.
THE COURT: Go ahead.
BY MR. STRASSBURG:
Q. Hold on. I can do this.
Okay. Proceed.
A. So here we have a picture of the Suzuki that was involved in the accident. Obviously, this is the front bumper.
It's a little bit hard to see on the screen here, but there are marks that go along the bumper starting from about the point here (witness indicating) all the way over to the driver's side. And these marks actually match up well with the damage here (witness indicating). It's about 50 inches going over to the wheel.
So we know that the impact was no further than this area here on the passenger side of the Suzuki. And from the other pictures of the vehicle, we know that there's more damage on the driver's side over here than on this portion. We actually don't see any deformation, permanent damage, to the frame, the bumper system, anything on this side except the bumper cover's pulled off.
And that's consistent with the bumper

interacting with this tire as it's turning. The tire on the Santa Fe would grab on to the bumper of the Suzuki and actually pull it off. It's only held on with very small plastic screws or clips. So to pull the front bumper cover off actually is -- is not that much force. But it gives us an indication of how the vehicles were lined up during the accident.

Q. All right. So the quantifications that you harvested from this case with this specific particularized data about this accident, you inputted this into PC-Crash. And what were the results when you ran that program?

MR. ROBERTS: Objection. Foundation.

Permission to voir dire the witness, Your Honor?

THE COURT: Come on up for a minute first.

(A discussion was held at the bench, not reported.)

THE COURT: All right. So I'm going to let Mr. Roberts ask some questions out of order here.

MR. ROBERTS: Thank you, Your Honor.

VOIR DIRE EXAMINATION

BY MR. ROBERTS:

Q. Dr. Scher, Mr. Strassburg just asked you

about what your calculation was on PC-Crash. I just want to go back and try to ask you a few questions about foundation.

There's certain things that you had to enter into PC-Crash in order to get the answer you want to give; right?

A. That's correct.

Q. And the accuracy of your delta-v is based on that accuracy of your input data; correct?

A. Yes.

Q. Okay. You told Mr. Strassburg that -- and he showed a PowerPoint -- the first thing you did is you're looking at the point of the collision, because you have to tell PC-Crash where the vehicles were at the first point of impact; right?

A. That is true.

Q. And you put 100 feet north of Peak on the PowerPoint slide. Do you recall that?

A. That's from the accident report. That's what the police reported. The actual distance is actually greater than that. But that's on the police report. Yes.

Q. So when you say the -- and that was what I was getting to, because you didn't place the point of collision 100 feet north of Peak, did you?

A. No, I did not.
Q. Okay. How did you determine what the point of impact was if it was different from the police report?
A. Based on the testimony from Mr. Awerbach and Ms. Garcia.
Q. Did either one of them testify as to the point of impact?
A. They testified about how the accident happened, about how Mr. Awerbach was pulling out of the, I guess, driveway, for lack of a better term, from Villa Del Sol. So that happens to be, I think, 200 and some-odd feet north of the intersection, not 100 feet as the police reported. And it does say "approximately" on the police report.
Q. So you had Mr. Awerbach going straight across the lanes, correct, until he turned a little bit at the end which way?
A. Mr. Awerbach turned left. So he didn't go straight across; he actually turns left, as if he was going north onto Rainbow.
Q. So you had him going straight across and then immediately before impact turning a little bit to the left; right?
A. That's incorrect.

Q. Okay. Do you have -- perhaps we could have his animation that you wanted to show the jury.

So -- well, that's okay.

MR. STRASSBURG: Yeah, if you'll stipulate to let him see it, I'd be happy to show it to him.

MR. ROBERTS: Sure.

MR. STRASSBURG: Okay. You got it.

THE COURT: Which slide is that?

MR. ROBERTS: 46, I think.

MR. STRASSBURG: Well, the -- it is shown in static form on Slide 49, but it is shown on video on this, which we can present.

MR. ROBERTS: If you could just put the first frame up and stop there. Okay. So if the jury is looking at this --

MR. STRASSBURG: Judge, I'd ask to be able to show them the whole video. If he's going to voir dire him, he ought to have to voir dire him on the whole thing.

MR. ROBERTS: If that's what Mr. Strassburg wants to do, we can show him the whole thing. Then we'll go back to this frame.

THE COURT: Okay.

MR. STRASSBURG: Dr. Scher, my computer skills being what they are, I wondered if you could

help me with this.

THE WITNESS: Sure.

MR. STRASSBURG: If you don't mind.

THE WITNESS: Not a problem.

MR. STRASSBURG: Don't break nothing now.

THE WITNESS: I'll try. See where the -- okay. So I'm going to play it, and I'll back it up.

MR. ROBERTS: Okay.

THE WITNESS: There we go. And now we can -- I think we will be able to explain this.

MR. STRASSBURG: I think you want to do the stop at the first panel.

THE WITNESS: Right here?

MR. STRASSBURG: Yeah, I think so.

Is that right, Mr. Roberts?

BY MR. ROBERTS:

Q. That's correct. Now, Doctor, you'd agree that the -- Jared said that he came out of this driveway -- right? -- and was turning left?

A. That's correct.

Q. Okay. So you don't have him cutting across, like some people do, making a left-hand turn; you've got him coming straight out?

MR. STRASSBURG: Can you see him with Mr. Roberts in the way? Or can you see --

THE WITNESS: Yeah. So I do not have, in this particular slide, Mr. Awerbach going a sharp angle north on Rainbow at the time of the impact. So on this slide, that's correct.

BY MR. ROBERTS:

Q. And that's not based on any evidence that you've seen in the record on this case; right?

A. What's not based on --

Q. Neither Mr. Awerbach or Ms. Garcia testified as to the angle that he came out of the driveway to make his left-hand turn; right?

A. No. That's true.

Q. And the position right here is about 200 feet from Peak Drive, not 100 feet as in the police report.

A. That's right. The police were off by a little bit. They say "approximately."

Q. So you're just guessing at this; right?

A. No, it's not a guess. It's actually part of a part of a family of solutions that work to produce the accident kinematics as we know them.

Q. And we'll get to that in a second. But here you've got a little bit of a left-hand angle right before impact; right?

A. There is a slight angle, yes.

Q. Okay. Were you aware that Mr. Awerbach said

that he initially turned right to avoid the collision?
A. He said a lot of things. He may have said that. I don't recall specifically.
Q. And then he said he turned right and then he came back left, but he never said what the angle was when the impact occurred; right?
A. I'm not sure he would know. I don't think he did say.
Q. So when he said he turned it right, he could have been right or left, and you don't know; right?
A. No, because that would be inconsistent with Ms. Garcia's testimony.
Q. Okay. So let's look at this angle right here. Ms. Garcia's coming this direction from north to south; correct?
A. Sorry. Let me stand over here because it's hard to see.
Q. Sure. That's fine. Please do.
So Ms. Garcia's coming right here from north to south before the impact; right?
A. Yes.
Q. You've got an angle. What angle is this of her vehicle toward the median?
A. I don't recall for this slide. Obviously, it's a little bit to the left. You know, I would

approximate it as maybe 10 degrees, but I don't recall off the top of my head.

Q. Okay. There's no evidence in the record of what her angle was at impact; right?

A. No. She merely says that she swerved to the left.

Q. But you don't know how much she swerved?

A. That's right.

Q. Okay. Now, you told the jury it's one of a family of solutions that make things fit?

A. That's right.

Q. So before we move on to that, one more factor. You have to input a coefficient of friction in PC-Crash; correct?

A. Yes.

Q. And, typically, you can go out to the roadway where the accident occurred and you can measure that coefficient of friction; right?

A. You could.

Q. And that's how much resistance the pavement offers. Some pavement is slicker than other pavement; right?

A. Sure. Just to be clear, coefficient of friction is dependent upon the two materials that are in contact. So it's the resistance to motion across

the surfaces.

Q. And you used an average out of a book for typical asphalt; right?

A. I used 0.8, which is from a reference. But I also tested other coefficients of friction to see if it would make a difference.

Q. Okay. When you say "tested," you mean you put different data into your program?

A. That's right. So it's called a sensitivity analysis. What you do is you vary, say, coefficient of friction for one of the particular impact scenarios. And you see, does it make a large difference in the output in what happens? And, within reasonable ranges of coefficient of friction, it does not affect this accident, the kinematics in the accident.

Q. And you say you assume there were no skid marks, even though the vehicles spun 180 degrees; right?

A. Right. I didn't see pictures of skid marks. That's correct.

Q. And skid marks could be based on what the coefficient of friction was. If there's of lots oil on the road, it might be slicker than a coefficient of friction you would otherwise expect?

A. There would have to be a lot of oil on the

road to make a difference in this accident.

Q. Do you know how often it rains in Las Vegas?

A. I don't.

Q. So you mentioned that you put in a family of solutions. And you do iterations. And just so the jury understands, what you're doing is you're -- you're looking at a -- you're plugging in the speeds. And the speed of Mr. Awerbach's vehicle, you put in at 20 miles and 14 miles; right?

A. No. Actually -- so I adjusted the speeds of Mr. Awerbach's vehicle and Ms. Garcia's vehicle for a much larger range than that.

Q. Okay. Did you adjust Mr. Awerbach's up to 30?

A. I'll have to take a look at my notes. I don't remember what the top end was. But I can tell you, for the accident, the upper bound is about 20.

Q. That's right. You found the most likely was 14; the upper boundary is 20.

And you discredited Mr. Awerbach's top range of 30 when you did your analysis; right?

A. Well -- so I discounted the 30 that Mr. Awerbach said. That's correct. But, no, I don't think the most likely was 20. I think it was 18, if I remember correctly.

Q. And you used 30 for Ms. Garcia.
A. That's right.
Q. For --
A. For this one. But I've also adjusted that, so there's a range that I use in my analysis.
Q. Okay. And then what you do is you -- you put in different angles of impact, you put in different input data, and then you check or validate the outcome by seeing if it matches up the actual resting point of the vehicles; right?
A. So we don't know the resting points exactly. But in this particular case, we have testimony that Ms. Garcia was essentially turned around. She was facing the opposite direction after the accident. And so that's what we matched to.
You'll see at the end of this particular slide her vehicle was in a different lane. We have other -- well, I didn't put it in animation. But we have other runs where she has to swerve to the left, because her steering wheel is turned to the left. She actually goes straight back into her lane, as she testifies, facing the opposite direction with the speeds that we were just talking about.
Q. So correct me if I'm wrong, but your report says, "An iterative process was performed" -- which is

fancy word for, "repetitive," "over and over again"; right?

A. Not fancy, but sure.

Q. -- "process was performed to determine which speed and impact configuration would result in the final point of rest to the vehicles and calculated energy from the crush energy analysis."

So you're trying to validate your approach by seeing if the vehicles end up in your animation where they actually ended up in real life; right?

A. In the orientation in this case, yes.

And then we check that, as you just read, by looking at the energy. For example, we didn't know before -- wait.

I didn't know before I started the analysis if Ms. Garcia's vehicle just turned 180 degrees or it rotated all the way around and then went another 180 degrees. But because the damage to the vehicles would have to be so great in order for that to happen, we know that could not have been the case that she could only have gone 180 degrees around.

Q. Okay. If you could now play it to the end of the last frame for the jury.

A. Sure. Yeah. (Witness complies.)

Q. Okay. You would agree with me that, although

you may have other iterations and other animations that you've done, the one you -- the one you want to show the jury, Ms. Garcia's vehicle is spun around and it's not in the lane where she said it was facing oncoming traffic but it's across the median and over on the other side of the road; right?

A. In this one it is, yes.

Q. So if you assume that in actuality Ms. Garcia's vehicle is in this lane where she said it was, this iteration could not be reality; right?

A. It is with a slight change in steering angle. Actually, I have a picture if you want me to pull it up.

Q. Sir, if all of your inputs are accurate, the final resting place of the vehicles will be where they ended up in real life; right?

A. Sure.

Q. And there's no evidence in real life this is where the vehicles ended up.

In fact, it's inconsistent with real life; right?

MR. MAZZEO: Objection, Your Honor. Could we approach?

THE COURT: Sure.

/////

(A discussion was held at the bench, not reported.)

THE COURT: All right. Mr. Strassburg, go ahead.

BY MR. STRASSBURG:

Q. Dr. Scher, would you come down here, please.

All right. Now, just so we're clear, the results that you expect to get from PC-Crash are -- fall into generally what categories?

A. So there is the velocity and rotation of the vehicles. There's the general rest orientations and positions. And there's also the damage energy, the amount of damage to the vehicles.

Q. All right. Do you expect to receive any outputs on forces?

A. Yes.

Q. And motions?

A. Yes.

Q. All right. And what are the inputs, then, to the MADYMO simulation of the biomechanical forces on the body? Are they this force and motion?

MR. ROBERTS: Objection, Your Honor. The MADYMO is the biomechanical, and it's not valid if the PC-Crash isn't valid.

THE COURT: Can we stick with the PC-Crash

foundation first or no?

MR. STRASSBURG: Sure.

BY MR. STRASSBURG:

Q. Let's talk about force. All right.

To accurately assess the forces that are developed in this accident, what are the -- what's the minimum number -- set of inputs that you need to have reasonable information on to input into the PC-Crash system?

A. So you input speeds. You input the angles that the vehicles are relative to each other and -- let's see -- vehicle-specific information.

So you need to know what the vehicles are, for example, their wheel base, their weights, things of that nature. And then you -- then PC-Crash uses the laws of physics: balance of linear momentum, balance of angular momentum, and conservation of energy.

And that's how it gives you the positions and velocities over time and the amount of energy lost in the form of damage to the vehicles.

Q. All right. And what specific -- what is the minimum specific set of variables that you need to input into PC-Crash to get a valid result as to motion?

A. So you need this set right here. Yeah, the speeds, the angles, the vehicle specs.

Q. All right. Is the distance available for Mr. Awerbach's vehicle to travel, is that of any relevance?

A. If you mean from where he starts at the exit to Villa Del Sol, that's not critical in this, no. Because we're looking for what results match up with the testimony, specifically the orientation of the vehicle at the end, at Santa Fe.

Q. Can you check it with the distance information?

A. Yes.

Q. Did you?

A. I did.

Q. All right. Now, anything else that you had to input into PC-Crash to get a valid result for your purposes?

A. That's really it. We talked about coefficient of friction as well. That's a variable that we can adjust.

Q. Anything else?

A. No. That's really it.

Q. All right. So just to summarize, for your purposes of utilizing PC-Crash in a valid way, to come to a valid determination of the probable forces involved in the accident on the vehicle, the probable

motions involved on the vehicle, you needed to input information on six topics: speeds, angles, vehicle specifications, physical principles governing these motions, distance, and coefficient of friction; true?

A. That's correct.

Q. Anything else?

A. Not that I can think of.

Q. Fair enough. Now, what was the source that you used for the speed information?

A. So the speeds, I started with the testimony that was given and found that the testimony could not produce accurate results. So I adjusted the speeds up and down to figure out what ranges of speeds were possible.

Q. Well, did you start with the actual testimony?

A. I did.

Q. And what was it for Ms. Garcia's speed?

A. She said she was going at about 30 miles an hour.

Q. Did you need Mr. Awerbach's speed?

A. Yes.

Q. And how did you come by that information?

A. He initially testified that -- I believe he said he was going 20 to 30.

Q. All right. So it sounds like, to summarize, that you had testimony evidence of speeds that you used as an initial starting point.

A. That's right.

Q. All right. Now -- and then when you did your iterations, did you -- it sounds like you had occasion to make adjustments to the speed information?

A. That's correct.

Q. Now, what makes you think -- I mean, the adjustments that you made, did you just pick it out of thin air or did you follow generally accepted valid, validated scientific principles in doing that?

A. It's a standard technique of adjusting the speeds within reasonable ranges. If the testimony is that Ms. Garcia's going 30 miles an hour, we're not going to start her vehicle at 80 miles an hour. We're not going to start her vehicle at 0 miles an hour.

So we adjust it -- what I typically do is 2-mile-an-hour increments going up and down from the starting point.

Q. All right. And why -- what makes you think that that's scientifically valid?

A. Well, what I'm doing is I'm bounding the range of possible solutions to this accident. So I'm trying out a variety of different parameters, the

variables, and looking at what creates the right solutions. And I might not know exactly which one of those solutions is right, but at least I know it's under a certain mile per hour and over a certain mile per hour.

Q. All right. So it sounds like you are -- tell me if this is an accurate summary.

It sounds like what you are utilizing is the physical principles that govern these moving objects, just as objects, they're a given; right?

A. That's true.

Q. They're a constant; right?

A. That's right.

Q. And what -- what you did was start with the initial fallible testimony and you applied the -- the given standard constant physical principles to see how they worked themselves out on the -- given these particular speeds; right?

MR. ROBERTS: Objection to form.

THE WITNESS: That's right.

THE COURT: Sustained.

BY MR. STRASSBURG:

Q. And what -- how have you come to become familiar with the kinds of adjustments that you need to meet -- make to -- once you -- you use these initial

speed data?

A. This is all part of the process of learning how to do accident reconstruction analyses. There's never -- I shouldn't say "never."

It's very rare that you have such precise information that you can pinpoint exactly what happened to each vehicle at every instant in time. What you usually find is that there are ranges that work for a particular variable like speed or angle. And within those narrow ranges, you can have the solution, in other words, the actual dynamics of the accident.

Q. And are there -- is there peer-reviewed literature validating these adjustments or do you just -- does each guy just make it up as he goes?

A. This is a process of looking at the variables that you input and making sure that they're reasonable. So it's a standard practice that I do and, I think, others do as well.

Q. All right. And what factors do you take into account to determine whether your adjustments are reasonable?

A. Well, for example, I mentioned earlier that Ms. Garcia's vehicle couldn't turn 360 degrees and then another 180. And so, for that, I'm looking at the damage to the vehicles. And I know that the damage to

the vehicles does not support the amount of force, the amount of kinetic energy it would take to rotate her vehicle one and a half times around because we don't see that damage on her car or Mr. Awerbach's car.

Q. And what scientific analysis, if any, did you perform on this deformation to the vehicles themselves?

A. Right. So that is basically looking at the pictures, doing the photogrammetry, and coming back to what the energy is to create the damage to the structures of the car, permanent damage.

Q. Did you utilize any calculations of crush to validate your adjustments?

A. Yes. So the crush analysis validates the PC-Crash setup. So I looked at what energies would relate to the amount of permanent damage to both vehicles, and then I looked at the energy that PC-Crash said was absorbed by the vehicles in the crash and then looked at were they in the same range. And the answer is, for a certain number, yes, they were.

Q. All right. And did you have occasion to perform, as part of this, a crush energy analysis?

A. Yes.

Q. Would you tell us what that is and how it validates your adjustments?

A. So I think we've gone through this a few

times.

The crush energy analysis is looking at how much energy it takes to permanently form the vehicles. And then you match up the amounts of force applied to each vehicle and make sure that they are -- they are equal. And then you have the energy for both.

Q. All right. And you -- did you do that for these particular vehicles?

A. I did.

MR. STRASSBURG: Permission to show 25?

MR. ROBERTS: Just a second, Your Honor.

No objection.

THE COURT: Go ahead.

BY MR. STRASSBURG:

Q. Now, how does -- could you explain for us -- come down and explain for us how does Slide 25 itemize the steps you went through in performing the deformation analysis to check your adjustment.

A. So what I look for is the amount of crush in the vehicles. So I compared the photographs of the damaged vehicles to exemplar vehicles, so undamaged vehicle. I do photogrammetry to come up with what I call the upper balance. So I try to assume that there's more damage than there is. So if there's a question of whether it's 1 inch or 2 inches, I go with

the 2 inches of damage. And then I look at the repair estimates to make sure that the damage is what I think it is.

So I've then overestimated crush. And that gives me the maximum energy to deform the vehicles in the accident. And that number needs to be the same or in the same ballpark as what PC-Crash tells me is the damage energy to the vehicles, because it calculates that as well.

Q. And is the use of this crush energy method to validate the adjustments you made on PC-Crash -- has that been studied in research?

A. It has.

Q. Has it been validated?

A. It has.

Q. And are there research studies, peer-reviewed, validating this crush energy analysis to check PC-Crash?

A. Well, the crush energy analysis is a method unto itself, and there are peer-reviewed scientific journal articles that walk you through the process that I just described.

Q. Can you name any of them?

A. There's a -- a paper by Hull -- let's see. There's Cipriani. It's in the Fricke book on

traffic -- traffic accident reconstruction. It's fairly common.

MR. STRASSBURG: Permission to show 26?

MR. ROBERTS: Objection. Hearsay.

THE COURT: I don't think it's necessary.

BY MR. STRASSBURG:

Q. Now, to determine crush, is this something you eyeball or are there formulas?

A. So this is photogrammetry. It uses comparisons to known lengths. So it's not eyeballing it.

Q. Is there any mathematic formulas that determine crush or is it done some other way?

A. There's formulas that determine energy from crush.

Q. And was that utilized in making your adjustments?

A. It was.

Q. And could you -- was it vehicle specific? Was it just in general?

A. It does use vehicle-specific parameters that are developed and obtained from government crash tests.

MR. STRASSBURG: Permission to show 27?

MR. ROBERTS: No objection.

THE COURT: Go ahead.

BY MR. STRASSBURG:

Q. Would you explain to us -- would you identify for us the formula here.

A. Sure. This formula on the bottom is the energy of deformation. So it's the energy required to create the damage to the front of this vehicle, and it uses vehicle-specific parameters. Those are A and B. Those are stiffness coefficients.

Essentially, A is the amount -- or it relates to the amount of energy it takes to start plastically deforming or permanently deforming a component or a vehicle. And then B is the actual stiffness, so the amount -- it relates to the amount of energy per depth of crush. And so if you look at the vehicle -- may I show you?

Q. Certainly.

A. If you look at the front of the vehicle, here's 50 inches of width. And then you have the amount of crush going from zero over on the passenger side of this vehicle to 4 inches on the driver's side of this vehicle. And we use the amount of crush in a formula like this.

This is actually a simplified formula where we use the full width, W. So that's 50 inches here. And C is the average amount of crush for this profile.

But when we do this on the computer, this formula actually would take up about two pages because it requires the amount of crush at various positions along the front. And then you do essentially this type of formula for that whole front end of the car.

Q. And to get the quantities that you plugged in the formula -- you say that they're vehicle specific.

So you mean the Hyundai and the Suzuki?

A. That's right.

Q. And how did you gather that -- those quantification -- quantities?

A. Right. So the stiffness coefficients are from government crash tests, and then you get that information. And, actually, there's a company that takes it and specifically develops those stiffness coefficients.

And then you can also match it up. In this particular case, we want to make sure that the force is equal and opposite on the vehicles during the collision. And so we match it up that way as well.

Q. And is this a process that's been validated in peer-reviewed scientific studies?

A. It is.

Q. Is it standard in your profession?

A. It is.

Q. You mentioned stiffness coefficient.
Do you have a slide that illustrates that?
A. I do.
MR. STRASSBURG: Permission to show 28?
MR. ROBERTS: No objection.
THE COURT: Go ahead.
BY MR. STRASSBURG:
Q. Please explain Slide 28 and Stiffness Coefficient A.
A. This is a little bit hard to see on the screen here. But we have three panels -- precontact, contact, and postcontact -- as someone kind of pushing on a side of a door.
You see maybe -- no, it's a little bit difficult here. That person is pressing in the door panel. And then postcontact it pops out.
This is to really show that Coefficient A relates to what we call elastic deformation. So the amount of energy that is absorbed by the car before it permanently deforms.
Q. Do you have a slide for -- to illustrate Coefficient B?
A. Yes.
MR. STRASSBURG: Permission to show 29?
MR. ROBERTS: No objection.

THE COURT: Go ahead.

THE WITNESS: This is the same idea, but now the individual is hitting the door much harder. And hopefully you can see there's permanent deformation. There's a dent in the door. So now Stiffness Coefficient B relates to permanent damage, the amount of force to create a certain amount of depth of crush or depth of damage.

BY MR. STRASSBURG:

Q. Okay. Did you make any effort to determine a crush profile?

A. I did.

Q. What is that?

A. So I think we've seen it on here. The crush profile for the Santa Fe was essentially from the back of the driver's door over to -- I'm sorry -- the passenger's front door to the passenger rear wheel. And then, on Mr. Awerbach's vehicle, it went from essentially the passenger side headlight all the way over to the driver's side end of the bumper. And that crush went from 0 inches, so no damage on the passenger side, to -- I overestimated 4 inches on the driver's side.

Q. And did you use any vehicle-specific information from photographs of the Suzuki?

A. Yes.

MR. STRASSBURG: Permission to show 44?

MR. ROBERTS: No objection.

THE COURT: Go ahead.

BY MR. STRASSBURG:

Q. Explain what you did.

A. So this is, again, showing the crush depth, where we have no permanent deformation inward, at the passenger side headlight all the way over to the driver's side, where we know that there was some damage. And I've overestimated it 4 inches on this side.

Q. Is there anything that enables you to derive the angle of impact from damage?

A. Yes. In order to create the profiles that we have for the damage to both vehicles, they have to be oriented in a certain way. And that's obviously this portion of the Suzuki at the front driver's side in contact with the rear passenger side of the Santa Fe.

Q. All right. And do you have a -- is deriving angle of impact from deformation, is that a validated, peer-reviewed method, or is that just something you came up with for this case?

A. No, this is standard in the accident reconstruction community.

Q. And what are the principles that govern the use of this kind of data to derive angles of impact?

A. Essentially, it's the same equations of motion. It's all classic mechanics that allow us to do this.

Q. All right. You can go back up.

A. Thanks.

Q. Now, does the energy of deformation for these two particular vehicles that you calculated, would you explain how you use that physical quantity -- and, by the way, is it a guess or is it derived from formulas or something else?

A. I'm not following you. I'm sorry.

Q. The energy of deformation, is that a derived figure from objective physical formulas or is it just a guess?

A. It's from formulas and the evidence that we just discussed.

Q. And what are the names of the formulas?

A. Essentially, it's a balance of linear momentum. You would use an angular momentum as well.

Q. All right. And let me ask you, the physical principle of conservation of energy, did you make any use of that?

A. Yes.

MR. STRASSBURG: Permission to show 19?

THE COURT: That's fine. Go ahead.

BY MR. STRASSBURG:

Q. Please explain to us, from Slide 19, how -- the -- what the conservation of energy principle means.

A. Essentially, energy cannot be created or destroyed. So the energy before the accident -- the energy of the systems, the cars -- is -- and the occupants -- is the same before and after.

Q. Okay. And is this a valid principle, this conservation of energy, or is this something new?

A. This is one of the principles of physics. It's held as long as anyone's tested it.

Q. All right. And how did you go about calculating total energy preimpact and total energy post?

A. So the energy of the vehicles is essentially related to its kinetic energy beforehand. So for the linear component of each vehicle, it's one-half mass times velocity squared. And each vehicle has rotational velocity. In our particular accident here, there's no rotational motion before, but if there were, it would be one-half -- we call it "I", so it's a moment of inertia. It's essentially rotational mass times the angular velocity squared.

MR. STRASSBURG: Permission to show 20.
MR. ROBERTS: No objection.
THE COURT: Go ahead.
BY MR. STRASSBURG:
Q. Using Slide 20, how does this illustrate the calculations you performed for these particular vehicles to calculate preimpact energy?
A. So the energy of Mr. Awerbach's vehicle and Ms. Garcia's vehicle would be added together to give you the total energy before the impact.
You have linear components for both. So that's the first two cars with the lines with the arrows. And then there'd be rotational energy as well, and you can see that there is none for the right two pictures for these vehicles just before contact.
Q. All right. So this establishes a quantified amount of energy for the left side of this universally applicable formula of conservation of energy; true?
A. That's true.
Q. And how did you calculate the other side for postimpact?
A. Then you have the kinetic energy of the vehicles after impact. That's the linear and angular components for both vehicles. You also have the amount of energy that was absorbed by each vehicle to create

the permanent deformation, the damage to the vehicles. And then there's also any friction on the roadway and then sound and heat, things of that nature.

In general, for a motor vehicle accident, we ignore sound and heat and just use the other components.

MR. STRASSBURG: Permission to show 21?

MR. ROBERTS: No objection.

THE COURT: Go ahead.

BY MR. STRASSBURG:

Q. All right. So you have basically these two sides to your formula; right?

A. That's correct.

Q. And on the one side of the equation, there's preimpact, which is just linear; right?

A. In this case, that's right.

Q. Okay. And to calculate the speed of Awerbach's -- or to calculate the energy of Awerbach's vehicle -- why don't you come down here, sir.

To quantify Awerbach's vehicle, the energy, you utilized the physical parameters of his car; right?

A. That's right.

Q. And did you have information quantifying those physical parameters of his car that satisfied the requirements of -- the standard requirements for such

inputs in accident reconstruction analysis?
A. Yes.
Q. And they were?
A. The mass of the vehicle.
Q. And the speed?
A. Yes. For kinetic energy, it's also the speed. And that's initially based on testimony. And then we went through the process -- the iterative process to determine correct speed ranges.
Q. And this iterative process is akin to balancing formulas in chemistry; right?
A. That's an interesting way of thinking about it. Sure. Yeah.
Q. Yeah. And, in fact, you're balancing one side of the conservation of energy with the other side because you know they have to stay equal; right?
A. That's right.
Q. And you know that, if you make iterative changes on one quantity, it will determine iterative changes on the other side of the equation to other quantities within known ranges; right?
A. That's correct.
Q. And those ranges have been validated, yes, in the literature?
A. Ranges for the damage? No, that's specific

to this case.

Q. All right. Fair enough. And the same for Ms. Awerbach's vehicle?

A. That's right.

Q. All right. And then postimpact -- again, this is just milliseconds after the collision; right?

A. That's true.

Q. And then you use the same linear information.

Then quantifying the rotational energy for the Awerbach vehicle, summing to the rotational energy for the Garcia vehicle, what quantities went into that?

A. So this is part of the process that you actually solve all of the equations of motion together, and it gives the velocities and the angular rates for the vehicles afterward. So you need to know the masses of the vehicles, which we know, as well as the moments of inertia in the vehicles.

Q. To calculate the rotational energy?

A. That's right.

Q. And how do you calculate the moments of inertia?

A. That's a vehicle-specific parameter that we know.

Q. And how do you calculate it?

A. It's given to us in the vehicle specs.

Q. And who issues the vehicle specs to you?
A. There's a database of them.
Q. Named?
A. Shoot. I forget the name of it. It's -- it's part of PC-Crash's modeling, though.
Q. And is it part of the validation for PC-Crash too?
A. I believe so, yes.
Q. All right. And then to those four quantities you add deformation of the Awerbach vehicle; right?
A. Uh-huh.
Q. That was the energy of deformation that we already talked about?
A. Uh-huh.
Q. And that involves the quantities specific to the Awerbach vehicle we just discussed?
A. That's right.
Q. And then you add the energy of deformation to the Garcia vehicle?
A. That's right.
Q. And that involves the physical quantities that we just discussed?
A. It does.
Q. All right. And then you use the coefficient of friction?

A. That's right.
Q. Now, what makes you think you used the right coefficient of friction, one that was accurate and valid?
A. The coefficient of friction has been tested. It's been published in literature for dry asphalt. It's about .8. I used a range, the iterative process again. Going down to .7 and up to .9 did not make a difference in the dynamics of this accident.
Q. And then you utilized heat and sound?
A. That is -- those are negligible quantities in an accident like this, and they are typically ignored in accident reconstruction.
Q. All right. So when you're talking the iterative process, it sounds like you start with preimpact quantities; right? And then you look at postimpact results; right?
A. That's right.
Q. And then you reverse-engineer from the postimpact back to the preimpact and check; right?
A. That's correct.
Q. Okay. And the physical quantities that you derive for this postimpact analysis, it sounds like those serve as limits on the amount of adjustment that this whole system can tolerate; right?

A. That's right.
Q. Explain that to everybody.
A. I think we've gone through this a few times. This is -- for example, the damage to the vehicles represents a certain amount of energy lost in the accident. And it can't be -- we didn't have 20 inches of crush on Ms. Garcia's vehicle. It was only a few inches of crush.
So that bounds what we have for the damage component, which bounds what we can have for the inputs.
Q. So in layman's terms, then, if you got this amount of deformation of her vehicle, right, that tells you that there's only a limited range of speeds that the physical equations of conservation of energy will permit for her vehicle; right?
MR. ROBERTS: Objection. Leading.
THE WITNESS: That's right.
THE COURT: Sustained. It was leading.
BY MR. STRASSBURG:
Q. Explain how you relate the energy of deformation of her vehicle to the preimpact speed quantity.
MR. ROBERTS: Objection. Beyond the scope of his report.

THE COURT: I'm sure he talked about this energy in his report. I'm going to allow it.

MR. ROBERTS: He's got the tables here. There's nothing else, unless -- I'm -- I could be wrong.

THE COURT: I'm going to allow it.

THE WITNESS: So if I have an upper bound for the amount of energy required to deform the vehicle, then that gives me a basis for going back and looking at what speeds the impact would be.

So -- I forget the -- the whole question, but I think that's what you were getting at.

BY MR. STRASSBURG:

Q. Explain how you -- explain how the energy of deformation on the postimpact side of the formula limits the valid set of valid quantities for the speed of the Garcia vehicle.

A. Right. This is -- it's the same thing we just discussed. There is not energy for 20 inches of crush. We have a certain amount of damage energy. And that damage energy limits the amount of inputs in terms of speed.

We can -- when we run the PC-Crash. We run the equations, we solve the equations of motions. It provides the amount of damage energy as part of the

results. If that damage energy is 50,000 foot-pounds, and the actual damage energy between the two vehicles is 30,000 foot-pounds, well, then that can't be right. We have provided speeds that were too high in the impact. We have to go back and try again.

Q. All right. And is -- is this a process -- I mean, isn't it just guessing, or is it something more valid scientifically than this?

A. No. This is the iterative process. We have certain pieces of information that we can bound to, and then we figure out what solutions actually work with that -- those fixed points that we know.

Q. Okay. So to summarize, it sounds like -- you start out with what you read in Ms. Garcia's deposition.

A. Uh-huh. That's right.

Q. And Awerbach's deposition?

A. That's correct.

Q. And you know that you have a traffic accident like this, a T-bone kind of accident.

A. A lateral impact, yes.

Q. Lateral impact, right.

And then you perform your analyses of these particular vehicles to calculate these quantities on the postimpact side of the formula; right?

A. That's correct.
Q. And then the quantities on the postimpact side, they are related -- connected to the -- allowable quantities on the preimpact side by the laws of physics; right?
A. That's correct.
Q. I mean, the laws of physics -- once you calculate this energy of deformation, when you reverse-engineer and relate it back to what the speed quantity had to be before the accident, the laws of physics only allow certain values; right?
A. That's correct.
Q. And does that limitation hold for all of the quantities on the right side?
A. You mean all of the inputs?
Q. Uh-huh.
A. Yes, it does.
Q. Now -- all right. So the iterative process to develop a speed quantity that comports with the laws of physics and conservation of energy, that's what you utilized to derive the probable speed quantifications for your analysis. Yes?
A. That's true.
Q. Now, the angles, please explain to us how you utilized your objective observations of damage to the

particular vehicles to derive reasonable and appropriate angles of impact.

A. So we can see the damage in the photographs of the vehicles. And in Mr. Awerbach's vehicle, it's more damaged on the driver's side of the bumper, pushed in more. On Ms. Garcia's vehicle, it has that almost U shape for the passenger side front door going back to the passenger rear wheel. And the only way they can fit together in any reasonable manner is for the angle of the vehicles to be in a certain range.

Q. All right. So even though you don't know how we got there, you know from the -- the location of -- the damage, the deformation to each vehicle tells you where they were at impact; right?

A. Right. Where the damage is and the shape of the damage.

Q. Explain that.

A. Right. So Mr. Awerbach's vehicle doesn't just have damage to the driver's side. It's angled in. There's no damage on the passenger side in front of the headlight. It's all on the driver's side. And it gets greater as you go more toward the driver's side.

Q. And how does that set a reasonable range on the allowable -- on the angle of impact that the laws of physics will allow?

A. Well, the passenger side of Mr. Awerbach's vehicle can't engage with Ms. Garcia's vehicle. So that limits the amount of rotation that you can have. And we know that he wasn't turning right onto Rainbow, that he was turning left. So we have a limit on the angle there too.

Q. Vehicle specifications, you utilized what?

A. Those are vehicle-specific numbers from the databases, things like weights, wheel bases, things of that nature.

Q. And the vehicle specifications, did you use all the ones that good, standard accident reconstruction practice demands?

A. Yes.

Q. Did you leave any out?

A. Not that I know of.

Q. Physics. Did you utilize all of the objective scientific principles of physics required for your analysis under the standard of practice in your discipline?

A. Yes.

Q. Distance. What quantities as to distance did you require?

A. In this particular accident, distance was not as important as orientation, so final resting

orientation.

Q. Describe what you mean by that.

A. So Ms. Garcia testifies that she's facing the opposite direction at the end the accident.

Q. All right. So when you're talking about final resting orientation, you're talking about her facing back the way she came; right?

A. That's right.

Q. You're not talking about what lane she's in; right?

A. No. Although we can do that as well with steering input in the model. If she has her steering wheel turned to the left, swerving away from Mr. Awerbach, as she testifies to, then, even though the animation I showed you has -- has her vehicle in a different lane, it actually moves right into the correct lane. And I do have a picture of that, if you want to see it.

Q. Sure. Do you have a cite? Can you tell me which one?

A. Yeah, if I can view my file. So if you have my file, I can guide you to it.

Q. Yeah, I got it. Oh, do you want it?

A. No, no, no. Not the slides, the actual file.

Q. Where is that?

A. That's okay. Never mind. We don't.
Q. Okay. All right. As to distance, what distance information did you have?
A. We actually had very little distance information.
Q. Was it specific to the location of the accident?
A. I'm not sure what you mean.
Q. Well, did you use Rainbow or some other road?
A. Oh. I used Rainbow in the analysis.
Q. All right. Now, Mr. Roberts says that your results are invalid because the PC-Crash software shows the resting location of the vehicles someplace different than some of the witnesses described at the time.

And I would ask you, sir, is that an uncommon result in discipline of applying physics to the reconstruction of accidents?

MR. ROBERTS: Objection to form. Mischaracterizes the evidence.

THE COURT: I'm going to allow it. Overruled.

THE WITNESS: It is common to have that result.

/////

BY MR. STRASSBURG:

Q. All right. And does the fact that the -- the PC-Crash result does not show -- that shows a resting place of the vehicles that doesn't exactly match some testimony by observers at the scene, does that invalidate your calculation of forces and motion?

MR. ROBERTS: Objection. Form.

THE COURT: Well, I'm going to allow it. Overruled.

THE WITNESS: No, it does not invalidate it.

BY MR. STRASSBURG:

Q. Well, why not?

A. Again, we have various steering inputs for Ms. Garcia that actually bring her vehicle at rest into the location that she testifies.

What was more important to me, especially for the later parts of what I'll testify to --

MR. ROBERTS: I'm going to object. Beyond the scope of his report. Nothing like that has ever been produced.

THE COURT: Come on up for a minute, guys.

(A discussion was held at the bench, not reported.)

THE COURT: Yeah, we'll take a quick break, folks. Sorry.

During our break, you're instructed not to talk with each other or with anyone else, about any subject or issue connected with this trial. You are not to read, watch, or listen to any report of or commentary on the trial by any person connected with this case or by any medium of information, including, without limitation, newspapers, television, the Internet, or radio.

You are not to conduct any research on your own, which means you cannot talk with others, Tweet others, text others, Google issues, or conduct any other kind of book or computer research with regard to any issue, party, witness, or attorney involved in this case.

You're not to form or express any opinion on any subject connected with this trial until the case is finally submitted to you.

Fifteen minutes. Holler to me when you need a break.

(The following proceedings were held outside the presence of the jury.)

THE COURT: All right. We're outside the presence of the jury. I'm going to excuse our witness for a minute.

MR. ROBERTS: Your Honor, before you rule, I

request to follow up on some of the testimony that's just come in if you're going to use that as the basis to make a Hallmark ruling.

I can do it outside the presence, but there are a couple of key things that I would like to get in the record before you make the decision.

THE COURT: We'll see if we need him back in or not. I know there's a Hallmark objection. And I made a bunch of notes when each of you were asking the questions.

As far as what he relied upon, didn't rely upon, place the point of impact different from the police report based on deposition testimony --

MR. ROBERTS: Your Honor, he confirmed on voir dire that he did not use the location from the police report. He confirmed the location of the police report would not have been possible, so he guessed at the location. It is not based on the police report.

THE COURT: All right. I'll let you guys make your record.

Go ahead, Mr. Roberts.

MR. ROBERTS: I'm -- I'm sorry, Your Honor. I interrupted. I got carried away.

THE COURT: It's okay. It's all you now.

MR. ROBERTS: I -- I apologize.

Your Honor, Hallmark doesn't just talk about the expert's qualifications and the recognized methodology. Hallmark talks about the foundation of the evidence upon which the calculations are based. And they have to be based on the evidence in the case and the facts of the case and not on mere guesses or speculation.

So we know what the key elements are of the PC-Crash program that have to be input. One of the elements is Ms. Garcia's speed. He wants to underestimate the amount of energy -- total energy in the collision.

He testifies in his report and today that he used 30 miles an hour for her speed even though there's been a range of 30 to 35. So he used the lower end of that, but that's fine. That's based on the evidence.

What about Mr. Awerbach's speed? Mr. Awerbach says he was going 20 to 30 miles an hour. In his report, he says he used 20. He didn't use 30. He's telling the jury he -- he was coming up with the maximum possible number. But in his report, he says he uses 20, not 20 to 30.

And the reason he says is that, based on -- and I'm quoting from his report at page 6, October 10th, 2014 -- "based on the distance traveled

by Mr. Awerbach and the peak acceleration for his make and model, it is likely that Mr. Awerbach's speed prior to impact is 14 miles an hour, which would decrease the severity of the accident."

So now he's saying that "I'm basing my decision to use 20 and not 30, which lowers the energy of the collision, based on the distance Mr. Awerbach traveled." But he doesn't know the distance Mr. Awerbach traveled. He doesn't know where he was prior to entering Rainbow.

He says he disregarded the 100 feet north of Peak because it wasn't realistic from the image that you've seen. He goes straight across Rainbow, the shortest distance possible to the point of impact. If he had traveled at an angle, the way many people do, and the point of impact had been further up -- he doesn't know; he's guessing -- Mr. Awerbach would have been traveling twice the distance and his speed could have been 28 and not 14. It could have been 30, as estimated by Mr. Awerbach.

He's guessing on the -- on the -- he's using the distance from -- that Mr. Awerbach traveled from the stop to the collision as the basis of his calculations, but he has no foundation for his estimate of distance because it's based on a guess, because he's

disregarded the police report point of impact and he's come up with his own guess as to that without the foundation.

We then look at angles. And if -- what he says is that he's got Mr. Awerbach turning a little bit to the left. And this is the angle he uses. So interestingly enough, the crush is up here and he's got the angle down here. So, "Whoops. That doesn't match up. So I'm now going to turn Ms. Garcia's vehicle to make the angles match up." He's guessing. There's no foundation. He just does that to make his calculations work.

He changes the angle of Ms. Garcia's car to a random angle with no foundation in the evidence to make it work.

So he's got speeds and angles. And by the way, Mr. Awerbach says he comes out and he's turning left, and he sees Ms. Garcia and he turns right, and then he comes back left. So we got no idea from the evidence in the record what the angle of the collision is. And, in fact, since Mr. Garcia says he came out and he turned right, it's more likely that he turned right. That's how the damage ended up on the right side of his car. But he just ignores that and he doesn't do any calculation based on that.

How does he go about determining speeds and angles? He does iterative calculations with different angles and different speeds. And this is what he says in his report. The position of rest of the vehicles in the simulation is compared to the witness accounts, and the energy of collision is compared to the crush energy to verify the simulation.

So his own report says that it's necessary to verify his simulation by comparing the rest position of the vehicles to the witness accounts. But in this instance, there's not a single witness who places the vehicles in his rest location. So he can't verify the simulation.

Now, he could do different iterations to place the vehicle in the correct lane. He said on the stand he's done it, but he's never produced it, and we have no idea what the delta-v's are from a correct position of the vehicle because it's not in his report and it's not in evidence.

So the very simulation he's trying to show the jury, the calculations he's trying to show to the jury are not based on a range; they're based on 20 miles an hour, angles inconsistent with the evidence, and rest positions of the vehicles inconsistent with the evidence. It's sheer

speculation.

And, also from his report, an iterative process was performed, meaning "I don't know what it is; I'm going to try lots of different things" to determine which speed and impact configuration would result in the final point of rest of the vehicles.

Again, by his own report and his own methodology, he failed to achieve what he was trying to accomplish -- verifying his analysis by confirming the final point of rest of the vehicles -- which is inconsistent with every single witness who will testify in this case.

We now look at crush. So he's trying to validate his analysis by saying, "Oh, but I looked at crush."

Let's look to see what his report says. It says that "Because exact crush profiles could not be measured, as the damaged vehicles were not available to inspect directly, a range of crush estimates were used to calculate the energy dissipated in the impact."

So he hasn't inspected the vehicles, which is an element under Hallmark; all he's looked at pictures, just like in Hallmark. There are no angles in pictures, and we know that from the evidence where you can look down and measure the crush angles. So he's

tried to extrapolate ranges of crush from pictures that just look directly at the side of the vehicle and not overhead.

He understands that. He understands he can't do a crush measurement. So he comes up with a range. And then let's look what he does.

"For analysis of the upper bound impact severity, I overestimated the crush depth of the vehicles to ensure that the energy dissipated and the actual event was no greater than my calculations. Less deformation would have produced a less severe accident."

And that might be true if we were just talking about crush. But here's the problem. He says that he then used crush in -- into PC-Crash.

Well, if you look at the conservation of energy, you've got impact of vehicles. Part of the energy is put into crush, part of it is put into the motion of the vehicles out of the collision.

So if he's overestimating the crush damage, if he's overestimating the portion of energy that went into crushing the vehicles, then he's underestimating the amount of energy left to throw the vehicle out of the way.

So while he's trying to be conservative in

crush, that ends up being over-- being underestimating the delta-v that's left that goes into motion. It's all guess and speculation, and it's self-validating.

He talked about speed. Speed is nowhere in his reports. He's got tables in his reports that talk about crush. The tables which talk about crush, I believe the Court saw them up at the bench, and they had inches of crush. They have force necessary for deformation.

But, of course, the amount of speed necessary to create a certain amount of crush depends on the angle. A direct angle at the same speed will create more deformation than coming in at a greater angle which deflects off. So a greater speed is necessary to create the same amount of crush at a different angle.

And so we look at his crush measurements, Your Honor, and his crush measurements have the angle for the Suzuki between 37 and 42 and for the Hyundai Santa Fe at 55 to 60.

He's just made that up. There's no evidence in the record for such a limited angle in his calculations. He chooses those because they match up with the other calculation he did in PC-Crash, and he's trying to validate it.

He's self-fulfilling. He's just manipulating

both of these things by choosing variables which he's made to match up even though there's no evidence in the record. And then he wants to take all of this stuff he's made up, all of the angles and all of the forces necessary to put a vehicle in a different location than the evidence shows it ends up in, and create a delta-v.

And that's what he wants the jury to know. But there's no foundation for his delta-v. It's all based on speculation and guess.

Thank you, Your Honor.

MR. STRASSBURG: Judge, Mr. Roberts wants to rewrite Hallmark to make it a more stringent standard than the supreme court. Hallmark requires, under the appliable statute, that the opinions of the expert must be the product of a reliable methodology. That's right out of the Hallmark opinions. And here --

THE COURT: I think he's -- his argument is based on subparagraph 5 of the reliable methodology portion of the decision. It says it has to be based more on particularized facts rather than assumption, conjecture, or generalization.

MR. STRASSBURG: Well, here's the problem with his argument. These variables are not independent. These variables are connected by the conservation of energy equation which determines, as a

universal property of physics, that these are all not free to -- to be anything an expert may want to guess; that he can determine, when he determines crush from measurements, photogrammetry, the actual pictures of the actual vehicles, exemplars. That's all particularized data. Those quantities determine the allowable quantities on the other side.

And so this iteration, of which Mr. Roberts is so critical, is not just a fancy word for guessing. It is a scientific process of reverse-engineering the sides of these -- this equation so they balance. It's akin to calculating the line of best fit. When you have data points, the scientists, they -- they go back and forth to determine which line best fits this data. And that's what he's doing here.

Hallmark only requires that it be based more on particularized facts than assumption, conjecture, or generalization.

Here, Judge, the speeds are based upon particularized facts and then adjusted in accordance with these objective scientific principles that determine and limit the allowable levels for those adjustments and which are commonly, standardly utilized in this discipline and have been validated for that purpose.

The angles are determined by the observations of the actual damage to the actual vehicles which are involved and those actual deformations. Those determine the allowable angles at the point of impact.

Now, the fact that there's a difference and disputes about how he got there, who swerved first, all that stuff, does not alter the fact that the angles are determined by the deformation.

You see, Judge, all of a sudden now, Mr. Awerbach is a super-credible witness. He lies about everything else, according to the plaintiff, but when it comes to the rest position of the vehicles, all of a sudden, he's Buddha. And that is just not required under the custom and practice of legitimate and validated accident reconstruction.

The rest -- the fact that there is a degree of mismatch between the final rest locations testified to by witnesses, whose credibility the plaintiff attempts to assassinate in every other aspect of this case, that there's a difference between that and the output of this balancing operation by computer between the two sides of this conservation-of-energy formula, the witness has testified it does not discredit the validity of his results because it happens all the time in this business. And the experts take that into

account within the general physical parameters that govern this entire system.

He also testified that he did a sensitivity analysis with respect to Jared's speed.

You see, Judge, Mr. Roberts wants to impose the same level of precision requirement for every quantity utilized in these calculations. But that's not how reality works, according to Dr. Scher, because scientists do what's called the sensitivity analysis to see whether -- you know, it's the difference between linear relationships and geometric ones.

For a geometric one, you change a little bit in initial conditions, you get a huge change in -- in outcome. Linear is just proportional. Sensitive analysis is what determines which one this is.

For purposes of Jared's speed, in this kind of an accident, the witness has testified that the sensitive parameters are broader for Jared's speed than other parameters.

And, again, it's important -- I mean, Mr. Roberts wants to characterize the output of Dr. Scher's analysis as a simulation of reality. That's so he can test it against witnesses, whose credibility he doesn't accept anywhere else in the case, and try to discredit it.

But what Dr. Scher is modeling here, what he's calculating here, is not rest locations. He's calculating forces and motions. And the reason he's doing that is because those are the inputs for the next step in his methodology, the biomechanical analysis of the force, how the forces on the vehicle translate into forces on the spine.

So that is why, as he testified, that accident reconstructionists don't consider it to be discrediting that the fact of the outcomes of the PC-Crash analysis don't match exactly with fact witnesses, who notoriously -- who can be notoriously unreliable. That's the custom and practice. It's been validated in this discipline.

And it's an upper bound. It's not a simulation of what had to happen. It's an upper bound. It's a simulation of how bad it could be physically under these conditions. Because even -- no matter -- even at that level, the upper bound, these forces couldn't hurt her spine. That's his opinion. That's -- that's the logic behind his opinion.

It's -- and Mr. Roberts wants to limit him to only being able to model exactly what must have happened in reality. What he's doing is, as an honest and -- expert with integrity, he's saying that he feels

more comfortable, more valid, in modeling the upper bound of what these forces could not exceed, because he can prove that, even with the upper bound, he's right.

Judge, that satisfies the requirements of Hallmark. The particularized data outweighs assumption, conjecture, and generalization. In fact, there isn't lot of that here because of this conservation of energy principle that connects what you can observe, what you can measure to allowable limitations on other factors that are relevant to the calculation.

That satisfies Hallmark. The objections that Mr. Roberts has go to weight, not foundation. This is clearly the product of reliable methodology. If Mr. Roberts wants to criticize that on cross, well, then that's his right to do so. But it -- it's admissible.

MR. ROBERTS: One brief thing, Your Honor.

THE COURT: Let Mr. Mazzeo go first.

MR. ROBERTS: Sorry.

MR. MAZZEO: Thank you, Judge.

So I would agree with Mr. Strassburg. He does satisfy the reliable methodology. And I would direct the Court's attention to the 2013 case of LVMPD v. Yeghiazarian, Y-e-z-h-i-a-z-a-r-i-a-n. 129 Nev.

Adv. Op. 81, 312, P.3d, 503, 2013 case.

THE COURT: This was our case. I know it real well.

MR. MAZZEO: So there we go. So I don't have to go through those facts, but that was where Dr. Baker was -- if I can just quote from the -- from the Court.

"The fact that Dr. Baker chose to use a longer measurement instead of a shorter measurement for the skid marks was -- was appropriate for cross-examination. Furthermore, the disagreement among Dr. Baker and the others regarding officers -- Officer Wick's prebraking speed was founded on whether the figures from the black box in Officer Wick's patrol car were from an airbag accelerator -- accelerometer were more reliable in determining impact speed also appropriate topic for cross-examination."

According to the supreme court, "The record indicates that Dr. Baker was able to calculate to a reasonable degree of scientific certainty the vehicle's starting positions, their prebraking and impact speeds, and a general angle at which the vehicles collided."

The reliability and -- and from what Dr. Scher testified to, to satisfy that fifth factor in Hallmark, the reliable methodology based on -- on particularized facts, well, he -- he gave it to you

several times. He looks at the damage of the vehicles, the speed of the vehicle, the angle -- the angle of the vehicles relative to one another, the vehicle specs. And then he uses the law of physics.

The -- Mr. Roberts suggests that, well, the speed is based on guesswork.

Well, that's not true. He looked at the -- he put all of -- he crunched all of these -- these variables into a formula, and he came up with what the most probable speed was.

Just because a witness, after an accident, who's not looking at the speedometer most of the time, says, well, what's your estimated speed? It's just an estimate. Mr. Roberts can't stand up here and say the speed that -- that Jared gave was the actual speed he was going at the time of impact. And the same thing with -- with Ms. Garcia.

So the -- the more reliable speeds are the speeds that Dr. Scher came up with rather than the estimates given by the motorists in this case, since at the time of impact we know they're not looking at the speedometer. So it's only an estimate.

Mr. Roberts also suggests that the final point of rest is important. That's not important whatsoever to the calculations performed by Dr. Scher.

And so I think he satisfies that fifth factor of Hallmark.

I know that prior to the break, you were -- I think you were in agreement; you're familiar with the fact that he satisfied the reliable methodology, and you're familiar with the LVMPD v. Yeghiazarian case.

Did I say that correctly, judge?

THE COURT: Close. They just said it Yeghiazarian.

MR. ROBERTS: Your Honor, in LVMPD you were affirmed because Dr. Baker was able to calculate to a reasonable degree of scientific certainty the vehicles' starting position, the prebraking and impact speeds, and the angles at which the vehicles collided.

And then let's look at the other extreme, which is Hallmark, where the district court abused its discretion because the expert did not know the vehicles' starting positions, their speeds at impact, the length of time the vehicles were in contact, or the angle at which the vehicles collided.

So which is this case closer to? I would submit it's closer to Hallmark because all of these things, the expert is just guessing at.

PC-Crash allows you to solve for a missing variable. It doesn't allow you to, with scientific

certainty, guess at all the variables to come up with something that -- and then it doesn't match.

That's why his report himself, despite what Mr. Mazzeo says that it's not important with the ending location, is his own report twice says that he validates his simulation by confirming that the resting point of the vehicles matches the eyewitnesses. It's not just Jared that we're relying on. Jared and Emilia Garcia are completely consistent with the location the vehicle ends up, and there's no inconsistent testimony in the record.

So in this case we know he did a trial-and-error approach on speeds, on angles of impact, on the location of the initial impact. And what he says himself is he was doing trial and error in an attempt to make the resting positions match up with their actual resting positions. And we know, from what he just tried to show the jury, he failed in that, which makes everything else that he put in unreliable. We don't know if his speeds are wrong; we don't know if his angles are wrong; we don't know if his delta-v is wrong. Because we don't know. He was unable to confirm his guesses and his iterations by having the vehicles end up where we know they ended up based on the undisputed testimony.

And, therefore, under Hallmark, we would submit that the methodology is reliable, but the data that he puts in is not reliable and is not based on the specific facts of this collision.

MR. MAZZEO: Your Honor, one other thing. In Yeghiazarian there's no requirement that resting position is necessary. And the Court in Yeghiazarian said that the expert need only calculate some of the variables. And he certainly had some. He had a modest amount of variables.

And the Court also said that the expert need only provide the general angle at which the vehicles collided. They don't have to have the precise angle but the general angle. And Dr. Scher did testify that -- as to the relationship of the cars with respect to one another and the angle with which Jared's car -- and the -- or the points of contact between the two vehicles, which is a -- which is -- satisfies the Yeghiazarian case.

MR. ROBERTS: If we only had a black box, Your Honor, like you did in Yeghiazarian, we would know the speeds.

THE COURT: Anything else?

MR. STRASSBURG: No.

THE COURT: Let me think about it for a

minute. Take a break. Off the record.

(Whereupon a short recess was taken.)

THE COURT: Go back on the record. Case No. A637772. We're outside the presence still.

You wanted to make a supplemental argument, Mr. Mazzeo?

MR. MAZZEO: Well, I just wanted to -- I just wanted to suggest to the Court and ask the Court if you would have maybe voir dire and question Dr. Scher outside the presence of the jury with respect to whether the variables that he used, whether he satisfies Hallmark and Yeghiazarian, and whether he satisfies the reliable methodology standard or factor under Hallmark, you know, so --

I mean, so that's what I would ask the Court to do before you make a decision, because things -- as I said when we were off the record, I think some of the argument and suggestions to the Court got muddled between what Mr. Roberts was saying and -- and -- which was contrary and, I think, different from what Dr. Scher had actually testified to.

And Dr. Scher is -- and I believe -- and I wrote this down -- that he had testified to the fact that the -- the resting point is not important with respect to PC-Crash. Contrary to what Mr. Roberts, who

is not an expert, believes, that is not an important factor.

MR. ROBERTS: If he testified to that, Your Honor, we move to strike because that's contrary to his expert report in two places.

MR. MAZZEO: Well, I'm not saying that he didn't come up with a final resting point in his report, but in terms of the PC-Crash test analysis, that is not important for determining the -- the -- the speeds and the delta-v ultimately.

THE COURT: All right, guys. So under Hallmark, in determining whether an expert's opinion is based on reliable methodology, district court should consider whether the opinion is, one, within a reasonable -- recognized field of expertise; two, testable and has been tested; three, published and subject to peer review; four, generally accepted in the scientific community; and, five, based more on particularized facts rather than assumption, conjecture, or generalization.

Now, in the Hallmark case the supreme court found that Tradewinds in that case did not make really any attempt to prove the first several things there and consequently found that the expert should not have been allowed.

On -- I'm trying to find the pages for you -- page 652 of the P.3d cite, going on to page 653, it says, "Tradewinds also did not offer any evidence showing that these types of opinions were generally accepted in the scientific community. Further, his opinion was highly speculative because he conceded he formed it without knowing, one, the vehicle starting positions; two, their speeds at impact; three, the length of time the vehicles were in contact during impact; or, four, the angle at which the vehicles collided."

It says that "Tradewinds did not introduce evidence that Dr. Bowles attempted to recreate the collision by performing an experiment, so they could not address whether his opinion was the product of reliable methodology."

Further, they find that "Dr. Bowles' opinion was based more on supposition than science because he did not inspect Hallmark's vehicle, he could not identify an area or angle of impact, and he did not know the speed of the vehicles at the time of the collision."

That was their collision after looking at the O'Neil v. Windshire Copeland Associates case. Further, after looking at the Smelser v. Norfolk Southern

Railway Company case, they said that in that case it did not consider critical pieces of information, instead relied heavily upon assumptions.

"Analogous, here, Dr. Bowles concluded that the forces involved in the collision did not cause Hallmark's back injuries by either assuming or failure -- failing to consider critical pieces of information such as the vehicles' starting positions, the speeds, length of time the vehicles were in contact, and the angles of impact."

I'm very familiar with the Yeghiazarian case because that was my case. And the evidence in that case was very different from this case. So I don't know that it necessarily helps me.

The notes that I had taken in -- while Dr. Scher was on the stand, he placed the point of impact at a location different from what the police report shows. He based it on deposition testimony, is what his testimony was.

I think he agreed that there was no evidence of what angles either vehicle was at at the point of impact. He discounted Mr. Awerbach's 30-mile-per-hour testimony, and I think he testified that he concluded it was somewhere between 14 and 20. He used those two numbers. He used 30 miles an hour for Ms. Garcia.

Now, when Mr. Strassburg started questioning him, he talked about speeds, angles of impact, vehicle information, laws, distance, coefficient of friction. And in -- to his credit and to Mr. Strassburg's credit -- I mean, he asked all the right questions as far as whether the studies that he was basing his opinions on, whether the laws of physics were laws that have been testable and able to be tested and subject to peer review and things like that.

The concern or the problem that I guess I have is the point of impact, he doesn't know. The speeds of the vehicles, he doesn't know, because he's -- he started with the testimony of the parties, but he basically said they were wrong.

The point of impact as provided in the police report he says is wrong. He talks about crush and deformation to determine speed and angles, but he testified in his deposition, apparently, that he didn't see the crush and he was only making estimates based on photographs that he's seen.

I think this case is similar to the old cases of Choat and Levine that you can't use photographs to determine speed. Part of reason for that is because, in looking at photographs, you can't see the damage that's underneath a bumper or underneath the outside

section of a vehicle that you're looking at in a picture.

He's using these pictures of crush and deformation to determine speed and angles in this case, which I don't think it has sufficient foundation or evidentiary basis. He talks about coefficient of friction being, I think, .8.

Now, I think coefficient of friction, whether he went down to .7 or .9, I'm not going to say that he can't testify based on coefficient of friction because I think that is a standard that's used pretty much everywhere in any case, and I'm okay with that.

The problem is he even testified that he overestimates the crush for purposes of his photogrammetry and uses photogrammetry to determine speed and angles.

Starting and ending positions in this case are unknown.

Further, in Hallmark, even if I get past the initial analysis, you get to the point where, if he's used technique, experiment, or calculations, then the Court should consider whether they're controlled by known standards; the testing conditions, if they're similar; the technique in calculation, does it have a known error rate and was it developed by the -- by the

proffered expert for purposes of this case.

In looking at that, I don't know that I can say that any of his opinions are controlled by known standards because the opinions that he's offering, I think, are based more on assumption, conjecture, and generalization than they are on the particular facts of the case.

I don't know that I've ever excluded an expert from trial based on lack of foundation in the Hallmark case, but in this case I'm going to have to. Sorry, guys.

So how do we proceed from here? I know this doesn't make you guys happy. So tell me what you want me to do.

MR. MAZZEO: Tell us what we want to do from -- from what perspective, from -- with regard to Dr. Scher, he's done basically; right? I mean, that's your --

THE COURT: Well, I don't think there's a foundation for any of the opinions that he's offered or for the opinions that I think you want him to offer, which are even further -- I mean, any opinions that he has to offer that deal with injury or forces, whether forces of daily life, are more than what he experienced in the accident. I think that's all based on the

conclusions that he has about the speed and the forces and the impact that I can't let him testify about.

I mean, I guess I'm asking you, is there something that you want to -- that he can offer that's separate and aside from those opinions?

MR. MAZZEO: May we have a moment, Judge?

MR. STRASSBURG: Well, let's go talk to him, Judge, let's find out.

THE COURT: And I guess, if you want him to testify about, for example -- well, I'm thinking that he can probably still testify about the -- the forces that are put on a body during the ordinary activities of daily living. But I don't know that that matters if nobody's going to say that the accident was more or less than that. I don't know that that has any relevance.

So I don't know. You guys talk and decide if there's something that you think he can offer in light of that ruling.

MR. STRASSBURG: Thank you, Judge.

THE COURT: Let me know. Off the record.

(Whereupon a short recess was taken.)

THE COURT: Want to go back on first or stay off?

Go back on the record. We're still outside

the presence.

MR. STRASSBURG: Judge, we would move you to reconsider your ruling, and we would request that you allow Dr. Scher to explain to you why the quantities that you identified in your ruling that you expressed concern about are not material to his use of PC-Crash to figure out only force and motion. Because the physics of it are -- they are -- they don't depend upon the factors that your ruling depended upon.

And for purposes of getting it right here in a case that everybody has sunk a lot of time and money into and getting it right for purposes of appeal for the law of this state, that -- that -- the personal injury bar, I mean, we are hiring accident reconstructionists all of the time. It would be important not to shackle the current state of this scientific art with the rulings of cases that are 30 years old and have been superseded by scientific development.

I mean, Judge Allf heard these cases too and decided that they were not determinative as to what is the standard of appropriate practice for engineers like him.

THE COURT: The 30-year-old cases, you're talking about the Choat and Levine cases?

MR. STRASSBURG: Yeah, that talk about you can't use photographs. Well, today you can. And it would be --

See, Judge, he is trying to figure out the force on the spine. That's all. He -- he is trying to -- and the determinant -- the motion that determines the force on the spine is the 180-degree spin of her vehicle and the fact that it's only 180 degrees.

And so all he needs for his purposes is to determine what forces are generated when a vehicle of her cars's weight and characteristics spins 180 degrees on this road surface and comes to a stop. His calculation -- those -- that's how he derives the force on the spine for his biomechanical analysis.

This calculation depends solely upon the laws of physics. It is validated in the scientific literature. It doesn't depend upon the starting location of Jared's vehicle. It doesn't depend upon the resting location of her vehicle. What it depends upon is the motion that her vehicle described.

And it is uncontested. Nobody disputes the fact that her vehicle proceeding down that road at 30 miles an hour was -- was subjected to a force that caused it to spin only 180 degrees.

Now, the physical parameters that govern this

system determine what a vehicle's describing at motion subjects the occupant to at the level of their spine. So his calculations go to force and motion. They are determined by -- it's a little different than the usual accident reconstruction expert who's just trying to create a version of -- of reality that you can see and the rest location and the start locations. That's not here because that information wasn't available.

What -- what he is doing is something different. He's doing a biomechanical analysis. The biomechanical analysis focuses on the forces, the force at the level of the L5-S1 vertebra. That force is determined by the physical principles of the universe, by the 180-degree motion of a car of this weight and wheel base and friction characteristics spinning like that when it's going 30 miles an hour.

It doesn't matter for his purposes, just for his purposes, if he's hit by a truck, an airplane, whether Jared's going from a standing stop, whether Jared's running through that intersection or not.

THE COURT: Do you want to ask him additional questions?

MR. STRASSBURG: Yes.

THE COURT: Go for it.

MR. ROBERTS: Your Honor --

MR. STRASSBURG: Thank you.

MR. MAZZEO: Excuse me one second, Mr. Roberts, if I may.

I just -- well, I need to go on the record as well. I mean, this is -- we're coming back in now, and I want to make a record. And so --

THE COURT: Okay.

MR. MAZZEO: And I am also requesting what Mr. Strassburg is requesting, that Dr. Scher articulate all of the factors that he relied upon because I contend that the recitation of factors that you gave, Judge, for -- before you gave your decision, incomplete.

And also I want the record to reflect that we had a bench conference just before the jury was excused and, at that bench conference, you had indicated to all the parties that your inclination was that he did satisfy the Hallmark standard.

THE COURT: I did?

MR. MAZZEO: And then you got an argument from Mr. Roberts that convinced you otherwise for some reason.

THE COURT: I went back and I looked at all my notes from his testimony, from -- from everybody's questioning, and I read the Hallmark case again.

MR. MAZZEO: And that's what I want to point out, Judge. And then I want Dr. Scher to point that out on the stand.

You contend that Dr. Scher relied on photographs and photographs alone to determine the damage done to the body of the vehicle. Well, that's not true. He relied on damage estimates, and you didn't say that in your recitation of factors that you -- you believe that Dr. Scher relied upon.

Well, the damage estimates actually give the actual damage that occurred underneath the body of the vehicle, number 1.

The area -- the area of initial impact contact in the traffic accident report, as reported by Police Officer Figueroa, that's inaccurate. And -- and Dr. Scher is not going to use an inaccurate figure based on a -- on an estimate used by the officer who walked the distance when, in fact, the accurate estimate that Dr. Scher determined was actually twice the distance. It was 200 feet based on his calculations using, I believe, Google maps.

And then -- and then also -- I don't think you also recited and -- or indicated that Dr. Scher relied on the actual vehicle specs, which are identifiable in this case, the size, the weight of the

vehicles, et cetera, and the angle of impact.

He -- he did say that he had the -- identified the angle of impact with respect to the two vehicles based on the damage that occurred to both vehicles. So for the -- for the record, for purposes of appeal, and -- and also for your reconsideration before we move on from this witness, I think it's important to -- for this witness to identify all those factors that he relied upon to see whether or not he actually satisfies Hallmark.

MR. ROBERTS: Your Honor, we object to a do-over. And counsel mentioned that, just before the jury was excused, you were inclined to allow him to testify. If I could add a little bit of history since we were off the record.

I initially, when this opinion was going to be offered, objected under Hallmark after I did my voir dire. And we came up to the bench, and you said, "I'm inclined not to let him testify because I think he's speculating about all of these factors."

But you -- you said, "Mr. Strassburg, if you want to try to lay a foundation, you go ahead before I rule." And then you gave counsel -- the proffering counsel complete latitude to put whatever on the record he wanted to.

And it was counsel, Mr. Strassburg, who elicited from the witness the necessary factors to his calculations. And Mr. Scher is the one who said, "I've got to know speed. I've got to know angle. I've got to know the positions." He's the one who elicited this. The witness has said these -- this is necessary information.

And it sounds like they now want to say, "Oh, I was wrong. None of that stuff is really necessary. None of that stuff is necessary to my analysis. The report that I issued which relied on all this stuff, well, really, that's not really what I needed to do."

And he can't just change his report. He can't contradict the conclusions in his report. He can't contradict what he's already said on the stand that was elicited by counsel.

You gave them complete latitude to make whatever record. The record is complete. You've ruled. And we would object to a do-over, and we'd object in contradicting what's in his report and offering some new testimony that "I don't need any of that information. I can still calculate delta-v."

Because that's not what he did. He did a PC-Crash to calculate delta-v, and then he plugged the delta-v into the biomechanical software to analyze it.

So, Your Honor, the estimate was prepared by the insurance company. The vehicle was never actually fixed, and it was only for the Santa Fe. There is no estimate for the Suzuki. So he could not have relied on an estimate of the Suzuki because it's not -- I've never seen it.

THE COURT: Okay. I'm not going to give him a do-over, but I'm going to give him a little bit of opportunity to see if they can change my mind. Because I understand this is an important witness. It's an important case for everybody.

So go for it.

VOIR DIRE EXAMINATION

BY MR. STRASSBURG:

Q. Dr. Scher, regarding the location of the point of impact, is that a material fact that you need to know for purposes of your analysis or not? And why?

MR. ROBERTS: Objection. Asked and answered.

THE COURT: I'm going to allow it.

THE WITNESS: So we generally know the area of impact based on the testimony. In terms of -- sorry.

In terms of actually calculating the motions of the vehicles, it doesn't matter whether it happens

right in front of the intersection, a few feet north, a few feet south. The vehicle dynamics to spin the Santa Fe, it doesn't make a difference. So overall, in the biomechanical analysis portion, it wouldn't make a difference.

BY MR. STRASSBURG:

Q. Explain what's important -- what's so important about the spin of the Santa Fe?

A. The spin is important because you have a counteraction between lateral motion and spin. When a vehicle is contacted from the side -- say it's a far-side impact, so it's a contact to the passenger side and the driver -- I'm going to move towards the direction of impact from the lateral motion of the vehicle. The vehicle's going to accelerate to the left. I'm initially stationary. So I'm going to move, relative to the vehicle, to the right.

When a vehicle spins, you move to the outside or the outboard side. If you've ever gone to an amusement park ride where they spin you around and you get stuck to the wall when the floor drops out, it's the same principle.

In this accident those two motions counteract each other, and so we wind up in a situation where there's actually little relative motion because of the

spin and the lateral impact counteracting.

Q. Dr. Scher, what determines the forces on the lumbar spine that you use in your biomechanical analysis? What -- is it the spin? Is it the beginning location? The rest location? A combination? What is it?

A. It's the vehicle motions. So it would really be the accelerations, both linear and angular, that the vehicle undergoes.

Q. Which vehicle?

A. The Santa Fe.

Q. Alone?

A. If we're only interested in Ms. Garcia and her lumbar spine, then it's only her vehicle that matters for the MADYMO analysis, for the lumbar spine analysis.

Q. And why is it that this -- that all you need to know for your purposes is -- is speed and the -- the motion this -- this -- this spinning of only her vehicle that was only 180?

A. So we don't just need those. We also need vehicle weight, wheel base, friction, things of that nature.

Q. But only of hers?

A. Well, we need the mass of both vehicles, and

we need to know generally where the force is applied to her vehicle. Because if it's applied through the center of mass, we don't get that spin. Because the force is not applied through the center of mass, we do get the spin.

Q. And -- and how is it -- what is the determining factor that determines the forces that are imposed upon L5 and S1 of the lumbar spine? Is it how fast Jared was going? The spin of her vehicle? Or something else?

A. The speeds actually don't matter at all. It's the accelerations. It's the vehicle motion during the crash impulse as it moves around -- moves sideways and spins.

Q. Is the only purpose that you're going to use for this PC-Crash analysis to input force and motion data into the biomechanical analysis, or is it something else?

A. Well, I think delta-v gives a good descriptor of accident severity. So I think that is important to discuss, but it's not necessary for the lumbar spine analysis.

Q. Okay. And what is necessary for the lumbar spine analysis?

A. Just her vehicle motion, Ms. Garcia's vehicle

motion.

Q. Why?

A. Because that's what drives her loads, her motions inside the vehicle, and how her lumbar spine gets loaded because of her motions in the vehicle.

Q. And did you have enough known information to calculate the motion of just her vehicle?

A. I believe so, yes.

Q. What was it?

A. What was the information?

Q. Yeah.

A. So we have the vehicle parameters for her car. We have --

Q. Which are?

A. Well, it's like the weight, the moment of inertia, the wheel base, friction on the road. I think that's it.

Q. Are those particular to Garcia's Santa Fe, or are they generic?

A. These are particular to her vehicle.

Q. What other information did you need to calculate this?

A. The general location of impact on the vehicle.

Q. Why was that important?

A. I need to know whether the force of the impact goes through the center of mass or if it is distant from the center of mass.

Q. Why?

A. Because if you have a force that's distant from the center of mass, you have a moment arm. And that force creates a torque that creates rotation.

Q. And what determines the amount of the moment arm that creates the amount of rotation?

A. The moment arm is just a distance. So it's where the damage is on her vehicle.

Q. And were you able to calculate the length of that moment arm?

A. Yes.

Q. And how did you do that?

A. It's part of PC-Crash where I have where the impact occurs on her vehicle.

Q. All right. And anything else that you needed to calculate the forces derived from this 180-degree spin? Did you need her speed, for example?

A. I think it's important to have a range because the vehicle dynamics will change if we -- if she's going 90 miles per hour versus 10 miles per hour. But we don't need to know exactly what her speed is.

Q. And is that because the forces are determined

by this angular momentum quantity which is determined by the motion in 180 degrees?

A. The angular accelerations start the rotation.

Q. And that's determined by the mass of the vehicle?

A. Partly. But it's moment of inertia.

Q. Okay. And explain to us the quantities that go into calculating moment of inertia. And prove to us that you had that information; it wasn't just guessing.

A. So moment of inertia is like rotational mass. And just like you would -- mass is a resistance to motion when you apply a force, because force equals mass times acceleration.

When you apply a torque to something -- torque equals I alpha. "I" is the moment of inertia. So it's kind of like the mass. Mass equals MA. And alpha is angular acceleration, which is like acceleration.

Q. Is that it?

All right. I have drawn on this board a vehicle of Ms. Garcia -- this is Ms. Garcia's vehicle here. This is the rotational center of the vehicle. This is the location of impact. This is the resulting motion, 180-degree rotation around this moment arm.

Do you see that?