IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF FLORIDA
TAMPA DIVISION

JEFFREY THELEN, Plaintiff, v. SOMATICS, LLC; AND ELEKTRIKA, INC., Defendant.	)	Case No.: 8:20-CV-1724

VOLUME IV OF VII (pp. 1-250)
JURY TRIAL PROCEEDINGS
BEFORE THE HONORABLE THOMAS P. BARBER
June 5, 2023

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[redacted]

EXHIBITS

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Plaintiff Exhibit 50	29
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8:38AM 1 THE COURT: Good morning, everybody.
8:38AM 2 MR. ESFANDIARI: Good morning, Your Honor.
8:38AM 3 THE COURT: I hope you had a refreshing weekend and
8:38AM 4 you're ready to go for some more productive jury time.
8:38AM 5 What's the game plan for today? Don't tell me
8:38AM 6 about problems because I'm sure everyone found problems over
8:38AM 7 the weekend, but what's the game plan witness-wise and stuff
8:38AM 8 like that?
8:38AM 9 MR. ESFANDIARI: Certainly, Your Honor. So the game
8:38AM 10 plan will be we're going to start the day off with
8:38AM 11 Dr. Castleman. He's the electrical engineering expert.
8:38AM 12 THE COURT: Is he live or --
8:38AM 13 MR. ESFANDIARI: He's live. We're going to have four
8:38AM 14 live witnesses and one video today. So we'll start off with
8:38AM 15 Dr. Castleman. [redacted]
8:38AM 16 [redacted]
8:38AM 17 [redacted]
8:38AM 18 [redacted]
8:38AM 19 [redacted]
8:38AM 20 [redacted]
8:39AM 21 [redacted]
8:39AM 22 [redacted]
8:39AM 23 [redacted]
8:39AM 24 [redacted]
8:39AM 25 [redacted]

9:09AM 1 [redacted]
9:09AM 2
9:09AM 3
9:10AM 4
5 (Jury in at 9:10 a.m.)
9:10AM 6 THE COURT: Have a seat, everybody. Welcome back.
9:10AM 7 Glad to see you. Everybody have a good weekend, right? Watch
9:11AM 8 any videos this weekend maybe of old movies or anything? No?
9:11AM 9 No videos? Well, good news is we're beginning the day today
9:11AM 10 with mostly live -- I think the day today will be mostly live
9:11AM 11 witnesses, all right? So that's where we are.
9:11AM 12 Who's your first witness?
9:11AM 13 MR. ESFANDIARI: Dr. Castleman, Your Honor.
9:11AM 14 THE COURT: All right. Dr. Castleman, come on down.
9:11AM 15 I'm also happy to report, members of the jury, we are well on
9:11AM 16 schedule to finish when I said or possibly earlier, which I
9:11AM 17 never say because it never works that way when I say it, but
9:11AM 18 we're in good shape time-wise.
9:11AM 19 All right. Raise your right hand, please.
9:11AM 20 (Witness sworn.)
9:11AM 21 THE COURT: Very good. Have a seat right there.
9:11AM 22 Tell us your name and how to spell it.
9:12AM 23 THE WITNESS: My name is Kenneth Castleman,
9:12AM 24 C-a-s-t-l-e-m-a-n.
9:12AM 25 THE COURT: All right. He's going to ask you some

questions over there. Go ahead whenever you're ready.

MR. ESFANDIARI: All right.

KENNETH CASTLEMAN,

a witness called on behalf of the Plaintiff, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. ESFANDIARI:

Q. Good morning, Dr. Castleman.

A. Good morning.

Q. Can you please introduce yourself to the jury and tell us where you're from?

A. My name is Kenneth Castleman. I'm a biomedical engineer, and I live in League City, Texas.

Q. If you could try to keep your voice up, Dr. Castleman.

A. Okay.

Q. Thank you. Kind of want to go over your qualifications, Doctor. Can you please tell us where you received your educational background starting with college, please?

A. Yes, I have a bachelor of science degree in electrical engineering, and I have a master of science degree in electric engineering and a Ph.D. in biomedical engineering, all from the University of Texas at Austin.

Q. What is biomedical engineering?

A. That's branch of engineering that addresses problems in medicine and biology. Biomedical engineers are trained not

9:13AM 1 only in engineering, but also in medicine and biology so that
9:13AM 2 they can speak intelligently to doctors, for example. And
9:13AM 3 biomedical engineers often design the instrumentation that's
9:13AM 4 used in the practice of medicine, and they do medical and
9:13AM 5 biological research work.
9:13AM 6 Q. Okay. Dr. Castleman, you mentioned you received your Ph.D
9:13AM 7 in biomedical engineering from Texas, University of Texas.
9:13AM 8 When was that?
9:13AM 9 A. That was 1970.
9:13AM 10 Q. And what did you do after you received your Ph.D?
9:13AM 11 A. I took a job with NASA at the jet propulsion laboratory in
9:13AM 12 Pasadena, California. I worked in the biomedical image
9:13AM 13 processing group in the science data analysis section at JPL.
9:14AM 14 We processed not only the images that came back from Mars and
9:14AM 15 Venus and Jupiter, but also medical problems as well; x-ray,
9:14AM 16 electron microscope and light microscope images as well, mostly
9:14AM 17 doing research and instrument development.
9:14AM 18 Q. Were you also -- at the time you were at NASA, were you
9:14AM 19 also teaching or affiliated with any of the universities in
9:14AM 20 California?
9:14AM 21 A. Yes, for a period of time, I was teaching a course at
9:14AM 22 Caltech, California Institute of Technology there in Pasadena.
9:14AM 23 That's one of the top rated universities in the world. They
9:14AM 24 have a number of Nobel prize winners on their faculty at
9:14AM 25 Caltech.

9:14AM 1 Q. All right. You mentioned you were at -- with NASA for
9:14AM 2 about 15 years, Doctor?
9:14AM 3 A. That's correct.
9:14AM 4 Q. Was there a time ever where -- after you finished your
9:15AM 5 tenure at NASA where they asked you to come back?
9:15AM 6 A. Yes. Twice actually. In 1986, at the time of the
9:15AM 7 Challenger accident, where the space shuttle Challenger blew up
9:15AM 8 immediately after the launch, they called me back to serve on
9:15AM 9 the committee that was analyzing the launch films to try to
9:15AM 10 figure out the exact cause of the accident.
9:15AM 11 And then again in 2003 when the Columbia spacecraft
9:15AM 12 broke up on reentry over Texas and Louisiana, NASA called me
9:15AM 13 back to serve on the committee, again to analyze the launch
9:15AM 14 films to see what went wrong with during the launch that
9:15AM 15 actually caused the spacecraft to break up on reentry.
9:15AM 16 Q. Dr. Castleman, you've been retained by my office to
9:15AM 17 provide testimony concerning engineering associated with the
9:16AM 18 device called an electroconvulsive therapy device. Are you
9:16AM 19 familiar with that device, Doctor?
9:16AM 20 A. Yes, I am.
9:16AM 21 Q. How many current manufacturers of ECT devices are there in
9:16AM 22 the United States currently?
9:16AM 23 A. I'm aware of two, Somatics and also MECTA.
9:16AM 24 Q. Are you familiar with Somatics' device called the
9:16AM 25 Thymatron device?

9:16AM A. Yes, I am.
9:16AM Q. All right. What is the purpose of an ECT device, Doctor?
9:16AM MS. COLE: Objection. Beyond the scope.
9:16AM THE COURT: Well, I think he can give a very general answer on that. Overruled.
9:16AM THE WITNESS: The device is an electronic pulse generator, and it generates an electric charge that is applied to the patient's head.
9:16AM BY MR. ESFANDIARI:
9:16AM Q. You made reference to an electrical charge. Is that also an electrical current?
9:16AM A. It is. It passes an electrical current through the patient's head.
9:16AM Q. All right. And what exactly is an electrical charge or electrical current?
9:17AM A. An electrical current is actually a flow, a flow of electrons. All matter is made up of atoms, and all of the atoms have electrons circulating around them like little planets. And normally an electron will stay with its own atom, but under certain conditions the electrons will jump from one atom to the next. If you have an object in which the electrons are all jumping in the same direction, you have a flow of electrons in one direction. That is a current. The actual flow of the electrons moving from one atom to the next as a group creates a flow, and that is the current.

9:17AM Q. For one to be able to understand how much electric current
9:17AM the Thymatron machine produces, what foundational material of
9:17AM electricity -- engineering and electricity do we need to know?
9:18AM A. The two things you would need to know to understand to
9:18AM some extent are current and voltage.
9:18AM Q. Current and voltage. What is current?
9:18AM A. Current is the flow of electrons through the material. If
9:18AM the electrons are staying with their original atoms and not
9:18AM moving, there's no current flow, but if the electrons are
9:18AM moving as a group in one direction through an object, then you
9:18AM have a current flow.
9:18AM Q. Can you kind of give a layperson's example of that, taking
9:18AM it outside of electricity?
9:18AM A. There's an analogy with water flowing through a hose. The
9:18AM water in the hose would be analogous to the electrons
9:18AM themselves. The rate at which the water is flowing through the
9:18AM hose, say in gallons per minute, that would be the current.
9:18AM That's how you would measure the current, how many gallons per
9:18AM minute of water are flowing through the hose. In the case of
9:19AM electrical current, it would be how many electrons per second
9:19AM are flowing through the object.
9:19AM Q. You mentioned -- in terms of current, is there a unit of
9:19AM measurement that measures the current?
9:19AM A. The standard unit that's used to measure current is the --
9:19AM is the amp, the ampere or the amp, and that is defined to be

9:19AM 6 billion billion, approximately 6 billion billion electrons
9:19AM per second flowing past the point. If you have that many
9:19AM electrons flowing in one second, then you have one amp of
9:19AM current.
9:19AM Q. And one amp of current, how much is that? How much energy
9:19AM is that, if you can give an analogy of something we would all
9:19AM understand.
9:19AM A. If you were to plug a 100-watt lamp into the light socket,
9:19AM you would get one amp of current flowing through the lightbulb.
9:19AM So one amp of current in that particular case is enough to keep
9:20AM a 100-watt bulb glowing, and we're talking about an
9:20AM incandescent bulb that generates heat as well as light.
9:20AM Q. And so you mentioned -- foundationally I need to know
9:20AM current and voltage. You described what current is, which is
9:20AM the flow of electrons. What is voltage?
9:20AM A. Voltage -- well, first off, the electrons have a negative
9:20AM charge, so they will be attracted to any positive charge, and
9:20AM they'll be repelled by any negative charge. So if the
9:20AM electrons are entering an environment where there's a positive
9:20AM terminal nearby, they will be attracted to it. That force that
9:20AM the positive terminal puts on the electrons is the voltage.
9:20AM Voltage is analogous to the pressure that forces the water
9:20AM through the hose. The higher the pressure, the more flow
9:21AM you'll get through the hose, the more water will flow through
9:21AM the hose or the faster it will flow. The higher the voltage,

9:21AM 1 the more force there is on the electrons to cause them to flow,
9:21AM 2 and so the more electron flow you'll get.
9:21AM 3 So the voltage is actually what causes the current to
9:21AM 4 flow. When you apply voltage to an object, that puts a force
9:21AM 5 on the electrons in that object, and they will begin to flow in
9:21AM 6 the direction away from the negative terminal and toward the
9:21AM 7 positive terminal.
9:21AM 8 Q. All right, Doctor. So you've talked to us about amps, the
9:21AM 9 current. You've talked to us about voltage, the pressure.
9:21AM 10 Bring it to the Thymatron machine, the ECT machine at issue
9:21AM 11 here. What is the current of the Thymatron machine?
9:21AM 12 A. The Thymatron instrument is designed as a constant current
9:21AM 13 generator. So it will always put out nine-tenths of one amp,
9:22AM 14 900 milliamperes. That's the standard current that the device
9:22AM 15 puts out. And in use, it will adjust its voltage to whatever
9:22AM 16 is required to force that nine-tenths of one amp of current to
9:22AM 17 flow. It's a constant current device, and it's capable of
9:22AM 18 adjusting its voltage as necessary to get that amount of
9:22AM 19 current to flow.
9:22AM 20 Q. Thank you, Doctor.
9:22AM 21 MR. ESFANDIARI: Sonya, may I use the -- just in
9:22AM 22 case. I'm not sure yet.
9:22AM 23 BY MR. ESFANDIARI:
9:22AM 24 Q. Doctor, are you -- the jury has heard some testimony and
9:22AM 25 discussion previously about sign wave ECT devices that existed

9:22AM 1 prior to the '80s as well as the current devices that are brief
9:23AM 2 pulse. Are you familiar with those two types of ECT devices?
9:23AM 3 A. Yes.
9:23AM 4 Q. All right. What is the difference between a sign wave
9:23AM 5 device and a brief pulse device?
9:23AM 6 A. The primary difference between the old style sign wave
9:23AM 7 devices and the more modern pulse devices is that they deliver
9:23AM 8 the same amount of electricity to the patient's head, but the
9:23AM 9 sign wave devices deliver that energy in only one second,
9:23AM 10 whereas with the Thymatron pulse device, that duration is
9:23AM 11 spread out to 8 seconds. So with the sign wave machines, you
9:23AM 12 get the electricity in one second, and with the Thymatron, you
9:23AM 13 get the electricity in a longer period of time, typically 8
9:23AM 14 seconds.
9:24AM 15 Q. So the take home then is that the two devices in terms of
9:24AM 16 electrical current and output are the same. It's just simply
9:24AM 17 that the sign wave device does it in one second versus the
9:24AM 18 Somatics or the brief pulse devices will spread it out over 8
9:24AM 19 seconds?
9:24AM 20 MS. COLE: Objection. Form. Objection. Form, lack
9:24AM 21 of foundation, and leading.
9:24AM 22 THE COURT: I think you have to split that up into a
9:24AM 23 couple of questions.
9:24AM 24 MR. ESFANDIARI: Certainly. Your Honor.
9:24AM 25 BY MR. ESFANDIARI:

9:24AM 1 Q. So if I understood your testimony correctly, Doctor, the
9:24AM 2 sign wave device delivers its electrical output in one second,
9:24AM 3 correct?
9:24AM 4 A. That's correct.
9:24AM 5 Q. All right. And the brief pulse device, the Thymatron
9:24AM 6 device, delivers that same amount of electrical output, but
9:24AM 7 spreads it over an 8-second time period?
9:24AM 8 A. That's true. It's not always exactly 8 seconds, but it's
9:24AM 9 in that range.
9:24AM 10 Q. All right. Doctor, have you reviewed the treatment slips
9:25AM 11 for Mr. Thelen's approximately 95 ECT procedures?
9:25AM 12 A. Yes, I have.
9:25AM 13 Q. Okay. I'd like for the benefit of the jury -- and we
9:25AM 14 don't need to go through all 95, but look at an example of one
9:25AM 15 procedure, and you can explain to us -- basically provide us
9:25AM 16 general information that you provided to us on the actual
9:25AM 17 case-specific facts. Is that okay with you, Doctor?
9:25AM 18 A. That's fine.
9:25AM 19 MR. ESFANDIARI: All right. Your Honor, I'm going to
9:25AM 20 move into evidence Plaintiff's Exhibit 50. These are all the
9:25AM 21 treatment slips.
9:25AM 22 MS. COLE: You're putting in all of them?
9:25AM 23 MR. ESFANDIARI: All of them, yes.
9:25AM 24 MS. COLE: No objection, Your Honor.
9:25AM 25 THE COURT: Admitted.

9:25AM BY MR. ESFANDIARI:
9:25AM Q. All right. And, Dr. Castleman, I'm going to show you -- and I'll blow this up, but this is the treatment slip from Mr. Thelen's last ECT treatment dated July 25th, 2016. Do you see that on the top there, Doctor, highlighted?
9:26AM A. Yes, I do.
9:26AM MS. COLE: What Bates number is that, please?
9:26AM MR. ESFANDIARI: July 25th.
9:26AM MS. COLE: What Bates number?
9:26AM MR. ESFANDIARI: Oh, I'm sorry. 50-90.
9:26AM MS. COLE: Thank you.
9:26AM BY MR. ESFANDIARI:
9:26AM Q. And is that the treatment slips that you reviewed, Doctor?
9:26AM A. Yes, it is.
9:26AM Q. I'm going to have a blown-up version of that that we can see better. And so, Doctor, I'll represent to you that this is a blown-up version of basically -- it's a blown-up version of the treatment slip. Do you see it, Doctor?
9:26AM A. I do.
9:26AM Q. All right. And looking at this, what data points are of interest based upon what you've testified today?
9:27AM A. I'm sorry, repeat the question.
9:27AM Q. So -- first of all, I guess maybe let me lay a foundation. What is this slip that we're looking at here, Doctor, this Exhibit 50-90? What are we looking at?

9:27AM A. This slip is printed out automatically by the Thymatron machine immediately after a treatment.
9:27AM Q. All right. And what information, data point information is of relevance on this slip that you'd like to tell the jury about?
9:27AM A. Probably the first -- the first three of them are relevant to the discussion.
9:27AM Q. All right. So you were talking about current, correct, earlier today?
9:27AM A. Yes.
9:27AM Q. All right. What is the current that was given to Mr. Thelen?
9:27AM A. It was nine-tenths of one amp, which is the standard current that the Thymatron machine always puts out. It's not adjustable.
9:28AM Q. So in each of his 95 sessions, he received nine-tenths of one amp in terms of current, correct?
9:28AM A. That's correct.
9:28AM Q. And that is the -- you mentioned that one amp is 6 billion billion electrons traveling. How many is nine-tenths of one amp approximately? Is it about 5 billion billion?
9:28AM A. About 5 billion billion electrons, a little bit less than 6 billion billion electrons per second flow.
9:28AM Q. What piece of data point next would you like to let us know about?

9:28AM A. The charge delivered.
9:28AM Q. You said the charge delivered. Well, first of all, Doctor, how long -- how long was the duration of the current?
9:28AM A. This one according to the printout was an 8-second treatment, stimulus duration.
9:28AM Q. So that's what you were telling -- excuse me. That's what you were telling us about where the sign wave would have delivered that charge in one second. Here, this was delivered in 8 seconds?
9:29AM MS. COLE: Objection. Form, leading.
9:29AM THE COURT: That's fine. Overruled.
9:29AM THE WITNESS: That's correct.
9:29AM BY MR. ESFANDIARI:
9:29AM Q. All right. And then you said you wanted to talk about -- to us about the charge delivered. Can you tell us about that?
9:29AM A. Yeah. That's basically the total number of electrons that were forced to flow through the patient's head during the entirety of the treatment, and that amount turns out to be about 3 billion billion electrons. It's one half -- it's equivalent to one half of an amp flowing for one second.
9:29AM Q. So in Mr. Thelen's ECT treatment, he had 3 billion billion electrons of energy transmitted out of this machine, correct?
9:29AM A. 3 billion billion electrons, yes, forced through his head, correct.
9:30AM Q. And then we see a reference here to energy set 100

9:30AM 1 percent. What does that mean, Doctor?
9:30AM 2 A. There is a setting on the front of the Thymatron machine
9:30AM 3 that allows the user to set the -- basically the strength of
9:30AM 4 the electrical dose that's delivered to the patient, and if
9:30AM 5 that setting is put at 100 percent, then the patient gets the
9:30AM 6 maximum amount of electrical charge that the system capable of.
9:30AM 7 If you reduce that to a smaller percentage, then the total
9:30AM 8 amount of charge that's delivered is reduced by a factor. For
9:30AM 9 example, if you set the energy setting to 50 percent, then
9:30AM 10 the -- then the amount -- the number of electrons delivered to
9:30AM 11 the patient's head would be one half of what it is at 100
9:30AM 12 percent.
9:30AM 13 Q. Did -- in -- in the treatment slips for Mr. Thelen that
9:30AM 14 you reviewed, was he getting 100% for all 95 treatments?
9:31AM 15 A. No. Actually his earlier treatments started out I think
9:31AM 16 as low as 20% setting to begin with, and that gradually
9:31AM 17 increased over the first 50 of his treatments until by about
9:31AM 18 the 50th treatment, he was getting 100%. And then for the last
9:31AM 19 46 or so treatments, they had -- those were all done at 100%
9:31AM 20 charge.
9:31AM 21 Q. Are you familiar -- the jury has heard some terms about
9:31AM 22 bilateral and unilateral electric placement. Are you familiar
9:31AM 23 with those terms, Doctor?
9:31AM 24 A. Yes, I am.
9:31AM 25 Q. Can you very briefly tell us the difference between

bilateral and unilateral?
A. Right. That refers to the position of the two electrodes on the head. The electrodes actually deliver the current to the patient's head. With the -- with the unilateral, right unilateral, one is on the top of the head, and one is on the right temple. With the bilateral placement of electrode, the electrodes are on the two temples. But in either case, the electrons are going to flow from one electrode to the other. So it's just a matter of the path that the electricity takes as they flow through the patient's head.
Q. So if I understand your testimony correctly, the placement of the electrodes determines essentially the path that the current is going to take?
A. That's correct.
Q. All right. So by being bilateral, it's going to go across likely, and in this way they're going to try to get from one electrode to the other electrode?
A. Right. Because when the voltage is applied, the electrons are going to start moving toward the positive electrode, and they will find -- electricity follows the path of least resistance, so each electron will find a path to get to the other electrode. Some of them will go -- some of them will go through the scalp under the skull because the skull is somewhat higher resistance than the skin of the scalp. But others will go through the skull and into the brain, and some will find

holes in the skull where -- holes where nerves and arteries and veins go through, and they'll rush to those -- to those locations to find a path to get through the head to the other side, to the terminal on the other side. And so some of those will flow through the brain. Many of the electrons will flow through the brain. Some will flow around the skull.

Q. There was a lot there to unpack, Doctor. Let me just try and see if I can understand you.

MS. COLE: Your Honor, I interpose an objection here. It's continuing to be beyond the scope of the proffer.

MR. ESFANDIARI: Not at all, Your Honor. We're talking about electricity.

THE COURT: It's overruled.

BY MR. ESFANDIARI:

Q. Dr. Castleman, I'm going to unpack kind of what you just testified to. We have the two electrode -- first of all, in reviewing Mr. Thelen's treatment slips, did he receive unilateral, bilateral? Can you tell us a little bit about what type of placement he received?

A. Looking at the list, his first 16 treatments, as I recall, were delivered with the unilateral placement of electrodes, one on top of the head and one on the right temple, but the remainder of them, about 80 or so, were delivered with the bilateral location where the electrodes are on the two temples, and the current flows straight through the head.

9:34AM 1 Q. All right. So you have the electrodes, and you've told us
9:34AM 2 3 billion billion electrons are trying to get from one end to
9:35AM 3 the other; is that right?
9:35AM 4 A. Correct.
9:35AM 5 Q. Okay. Now, obviously there's the skull and the head in
9:35AM 6 between these two electrodes. Are all of the 3 billion billion
9:35AM 7 electrons going through the brain, or are some of them taking
9:35AM 8 different paths outside of the brain?
9:35AM 9 A. The electrons repel each other, so they're attracted to
9:35AM 10 the opposite electrode, but they're also repelled by the other
9:35AM 11 electrons. So each electron will find its own path to get from
9:35AM 12 one terminal to the other. And as I said, some will find their
9:35AM 13 way through the scalp where the resistance is somewhat lower
9:35AM 14 than the bone in the skull. Others will go through the skull,
9:35AM 15 and others will find holes in the skull, openings in the skull
9:35AM 16 to get through. So a portion of those electrons will go
9:35AM 17 through the brain.
9:35AM 18 Q. Has any research been conducted to determine based upon
9:36AM 19 that -- that current, that 3 billion billion electrons that are
9:36AM 20 being transmitted, what percentage of them are actually making
9:36AM 21 contact inside the brain versus what are getting repelled by
9:36AM 22 the skull and --
9:36AM 23 MS. COLE: Objection. Beyond the scope.
9:36AM 24 THE COURT: Come on up, please.
9:36AM 25 (At sidebar on the record.)

9:36AM 1 THE COURT: So the very general stuff, you know, I
9:36AM 2 let that go. Now he's talking about exactly how this thing
9:36AM 3 works, which is what -- he was supposed to be just talking
9:36AM 4 about science.
9:36AM 5 MR. ESFANDIARI: He's just talking about science.
9:36AM 6 THE COURT: He's talking about how it's going to
9:36AM 7 affect his brain. That was your last question.
9:36AM 8 MR. ESFANDIARI: It's just asking how much -- so
9:36AM 9 their cross-examination is going to be that the electricity
9:36AM 10 that is being generated is going to be absorbed -- not all of
9:37AM 11 it is going to end up inside the brain. It's going to go --
9:37AM 12 the skull is going to take a lot of this. That's going to be
9:37AM 13 their cross-examination. I'm just trying to anticipate that
9:37AM 14 cross so that they can -- he's basically going to testify
9:37AM 15 that --
9:37AM 16 THE COURT: Do it on redirect, if you need to,
9:37AM 17 number 1, because if they open the door to all this stuff that
9:37AM 18 they're complaining about, that's different. But you can't
9:37AM 19 preemptively open the door and say, "Well, they were going to
9:37AM 20 get into it, so I am." Maybe they don't get into it.
9:37AM 21 MR. ESFANDIARI: Okay. Okay.
9:37AM 22 THE COURT: You know, I probably should have
9:37AM 23 sustained the prior objection, but I thought it was something
9:37AM 24 everybody knew anyway. You hook one wire up, and it was just
9:37AM 25 general information, but now you're getting into too much

9:37AM 1 detail.
9:37AM 2 MR. ESFANDIARI: Okay.
9:37AM 3 (End of discussion at sidebar.)
9:37AM 4 THE COURT: Objection sustained.
9:37AM 5 BY MR. ESFANDIARI:
9:38AM 6 Q. Doctor, in terms of the 3 -- I'm going to take this down
9:38AM 7 actually.
9:38AM 8 The 3 billion billion electrons that are being
9:38AM 9 transmitted, is that a lot of current?
9:38AM 10 A. It is relative to what a human body is accustomed to
9:38AM 11 seeing. Yes, it is a lot of current.
9:38AM 12 Q. Can you describe to us kind of -- you know, most people
9:38AM 13 aren't familiar with ECT devices, but how would that relate to
9:38AM 14 another product that, you know, people may be familiar with?
9:38AM 15 MS. COLE: Objection. Form, Your Honor. This is
9:38AM 16 beyond the scope and as discussed in the prior hearing.
9:38AM 17 THE COURT: This is -- this was discussed. Objection
9:38AM 18 to that question so far is overruled, but there may be another
9:38AM 19 objection if it goes too far. Go ahead.
9:38AM 20 BY MR. ESFANDIARI:
9:38AM 21 Q. Go ahead, Doctor.
9:38AM 22 A. I'm sorry. Repeat, please.
9:38AM 23 Q. So in terms of -- if you -- you mentioned 3 billion
9:38AM 24 billion electrons in one amp is a significant amount of
9:39AM 25 current. I'm asking you can you please compare that to another

9:39AM product that we, the jury, or the people in this courtroom may
9:39AM be familiar with?
9:39AM A. Okay. A stun gun, like --
9:39AM MS. COLE: Objection, your Honor.
9:39AM THE COURT: Overruled.
9:39AM BY MR. ESFANDIARI:
9:39AM Q. Go ahead, Doctor.
9:39AM A. Such as a taser, for example, can incapacitate a person in
9:39AM about a second using 3.6 milliamperes of current, average
9:39AM current. The Thymatron uses 900 milliamps in its pulses, and
9:39AM if you take into account the dead time between the pulses, the
9:39AM average current is about 63 milliamps, so -- over an 8-second
9:39AM period. So the taser gives the suspect 3.6 milliamps for one
9:40AM second average current, and the Thymatron gives the patient 63
9:40AM milliamps of current for 8 seconds.
9:40AM Q. Can you in terms of -- Doctor, I didn't understand that,
9:40AM I'm sorry. Can you in terms of current -- like, is it twice
9:40AM the amount, three times the amount? What are we talking about?
9:40AM A. In that particular example, it's 16 times as much.
9:40AM Q. All right. So the ECT device is generating 16 times the
9:40AM amount of current that a taser gun would?
9:40AM MS. COLE: Okay. Leading.
9:40AM THE COURT: Sustained.
9:40AM BY MR. ESFANDIARI:
9:40AM Q. Can you summarize the testimony you gave in terms of the

comparison between the taser gun and the ECT device in terms of multiplication, please?

A. Yes, the average current delivered by the Thymatron for 8 seconds is 16 times the average current delivered by a taser for one second.

Q. All right. Is there any other product that you can compare it to, Doctor?

MS. COLE: Objection. Cumulative.

THE COURT: Overruled.

THE WITNESS: The American Meat Institute recommends that pigs be stunned to make them unconscious before they're slaughtered, and they recommend 1 amp of current for one second, and the amount of current that the Thymatron produces is nine-tenths of an amp. So they're similar -- the currents are similar.

BY MR. ESFANDIARI:

Q. Sorry, Doctor. I had to check my notes on something.

Doctor, have you given us your testimony here today to a reasonable degree of scientific and engineering certainty?

A. Yes, I have.

MR. ESFANDIARI: I have nothing further for you at this time, Doctor. Thank you for coming.

THE COURT: Cross-examination?

MS. COLE: Yes, Your Honor.

CROSS-EXAMINATION

BY MS. COLE:

Q. Good morning, Dr. Castleman.

A. Good morning.

Q. You yourself have never used an ECT device; have you, sir?

A. Could you be a little bit louder for me, please?

Q. I'll try. You yourself have never used an ECT device; have you, sir?

A. No, I haven't.

Q. Let's talk for a moment about all those billions of electrons. Have you heard of something called Avogadro's number?

A. Yes, ma'am, I have.

Q. And Avogadro's number is 6 times 10 to the 23rd, true?

A. That's correct.

Q. And that describes the number of electrons -- say if you have a gram of water, which is about a quarter of a teaspoon of water, Avogadro's number would say that it would be 6 times 10 to the 23rd electrons from the hydrogen in that gram of water, right?

A. In the hydrogen, I think that's correct.

Q. And 10 to the 23rd is how many billion billion billion billions?

A. Let's see. A billion billion is 10 to the 18th, so 10 to the 23rd would be --

Q. Another 5 zeros on top of that?

9:43AM A. -- another 10 to the fifth, another 100,000 bigger than
9:43AM 6 billion billion, yes.
9:43AM Q. So the number of electrons in a quarter of a teaspoon of
9:44AM water from the hydrogen alone, not counting the oxygen in the
9:44AM water, but just from the hydrogen alone is -- well, a whole lot
9:44AM more than a billion billion?
9:44AM A. That's correct.
9:44AM Q. So when you're talking about 6 billion -- when you're
9:44AM talking about 1 billion billion electrons going through a
9:44AM current, that sort of puts it into perspective; doesn't it,
9:44AM sir?
9:44AM A. No, not at all --
9:44AM Q. I see.
9:44AM A. -- because what we're talking about here is electrons
9:44AM moving. As long as those electrons are sitting still, it
9:44AM doesn't create any --
9:44AM MS. COLE: Your Honor, I asked him a yes/no question.
9:44AM THE COURT: Yes. His answer was yes or no?
9:44AM THE WITNESS: I'm sorry. Repeat, please.
9:44AM THE COURT: Ask the question again. Answer yes or
9:44AM no, please.
9:44AM MS. COLE: Could the reporter please repeat back my
9:44AM question?
9:44AM THE COURT: So the number of electrons in a quarter
9:44AM of a teaspoon of water from the hydrogen alone, not counting

9:44AM 1 the oxygen in the water, but just from the hydrogen alone,
9:45AM 2 well, is a whole lot more than a billion --
9:45AM 3 MS. COLE: I think I said billion billion.
9:45AM 4 THE COURT: Billion billion.
9:45AM 5 THE WITNESS: Yes, if I understand your question
9:45AM 6 correctly, the number of electrons in a gram of water, the
9:45AM 7 hydrogen alone is more than 6 billion billion.
9:45AM 8 BY MS. COLE:
9:45AM 9 Q. Thank you, sir. I want to show you another one of these
9:45AM 10 charts that you looked at earlier, and this one is the first
9:45AM 11 treatment that Mr. Thelen received. What was the energy set
9:45AM 12 at?
9:45AM 13 A. Energy was set at 20%.
9:45AM 14 Q. So when you were talking about 100% charge, this is about
9:45AM 15 one-fifth of that?
9:45AM 16 A. That's correct.
9:45AM 17 Q. And it's the doctor that gets to choose what setting he
9:46AM 18 sets that number at?
9:46AM 19 A. I'm sorry. Repeat, please.
9:46AM 20 Q. The doctor gets to choose what number he sets that at?
9:46AM 21 A. That's correct.
9:46AM 22 Q. And the machine allows the doctor to choose anywhere from
9:46AM 23 what, 5% up to 100% for the charge?
9:46AM 24 A. That's what I recall, yes.
9:46AM 25 Q. And if at 20% of the charge, the -- 20% of the energy,

9:46AM then the charge is going to be 20% of the total that the machine can produce, right?
A. That's correct.
Q. So here on the first application of ECT to Mr. Thelen, the charge delivered was about 100 millicoulombs?
A. That's correct.
Q. What's coulomb? I don't think you talked about coulombs. What's a coulomb?
A. A coulomb is 6 billion billion electrons.
Q. Okay.
A. It's exactly that.
Q. So it's the same thing as the amp?
A. I'm sorry?
Q. It's -- okay. It's the -- strike that.

So the current here on this first treatment was the same, because the .9 amps is what's used for the current because you have to keep something constant when you have an equation that relates the number of amps to the total energy, and you stick in something called resistance for Ohm's law, right?
A. That's correct.
Q. What's resistance?
A. Resistance is the opposition that a material will present to current flow. It basically reflects how tightly the electrons are connected to the atoms that they are circling

around. So something like copper has a low resistance because the electrons are pretty much free to move from one atom to the next, but an insulator, like glass, for example, the electrons are very tightly connected to their atoms, so it takes a very high voltage to put enough pressure on those electrons to make them jump to their neighbors. So you -- with a high resistance, you get less current flow for the same voltage. It would be like using a smaller hose.

Q. I think that's good.

Now, a resistance to electrical flow will slow down or prevent electrons from flowing through, true?

A. What it does is reduce the number of electrons that will flow per second for the same -- for the same voltage.

Q. Yes, sir. Now, the human skin is a resistor, yes?

A. Every material has some resistance.

Q. I'm just -- that was a yes or no. The human skin is a resistor, yes?

A. The human skin has resistance, yes.

Q. And the human bone has resistance?

A. It does.

Q. And if electricity -- these -- these electrons try to find their way through and it meets a resistor, it's going to not go through as easily as it can go around, true?

A. Not as easily, yes.

Q. And you don't know how much electrons -- how many of these

9:49AM 1 electrons that are being generated by the Thymatron device
9:49AM 2 actually go through the skin and the scalp and the bone of the
9:49AM 3 skull during an -- during an ECT procedure; do you, sir?
9:49AM 4 A. Not exactly. That's not known.
9:49AM 5 Q. And without knowing that, you don't actually know how much
9:50AM 6 current is going through to the brain inside the skin and the
9:50AM 7 skull?
9:50AM 8 A. There have been studies that -- that studied that.
9:50AM 9 Q. That was a yes/no question.
9:50AM 10 A. There's some --
9:50AM 11 Q. That was a yes/no question. Do you know what that number
9:50AM 12 is?
9:50AM 13 A. The number -- no --
9:50AM 14 THE COURT: Time out. Time out. Stop talking when I
9:50AM 15 start talking. The reason I'm talking is because both of you
9:50AM 16 all were talking over each other.
9:50AM 17 MS. COLE: I apologize, Your Honor.
9:50AM 18 THE COURT: All right? So just ask the question
9:50AM 19 again, and then answer the question that's asked. All right?
9:50AM 20 Go ahead. Try it again.
9:50AM 21 MS. COLE: Get talking about science, and it's one of
9:50AM 22 my favorites. I'm sorry, Judge.
9:50AM 23 BY MS. COLE:
9:50AM 24 Q. Dr. Castleman?
9:50AM 25 A. Yes.

Q. You don't know how many of the electrons actually get through to the brain during an ECT procedure, true?
A. Can you restate your question a little more precisely like that? Because there is knowledge about that, but nobody knows the exact number.
Q. Are you familiar with literature that says about 5% of the electrons that are generated from the machine actually get through to the brain tissue?
A. I'm familiar with the literature on that subject, including that particular paper.
Q. Are you familiar with any other papers that give a number other than 5%?
A. Yes.
Q. Give me the citation for that paper, that other paper that gives another number.
A. Yes. The 1942 paper by Smith, et al., probably the first paper on this subject.
Q. And that one says 5%?
MR. ESFANDIARI: Let him finish, please.
A. -- said between 5 and 10 percent.
Q. Okay. What's the other paper?
A. I don't remember offhand the other citations. It seemed like there were at least five or six I've studied, and they were done on cadavers, and they all got values in the 5 to 10 percent range.

MS. COLE: Your Honor, move to strike the latter part of that question as not answering the question.

THE COURT: Well, ask the question again, and just answer her question directly. And then if your -- the lawyer that called you wants further explanation, he'll have a redirect, and he'll ask you to explain your answer, all right?

THE WITNESS: Thank you, Your Honor.

THE COURT: Go ahead. Ask it again, please.

BY MS. COLE:

Q. On these other papers that you don't remember the author of or the name of right now, did they have any different number than 5% that was quoted by Smith?

A. Yes.

Q. That was the answer. Thank you.

When we're talking about -- when we're talking about sign wave and brief pulse and pulse, are you familiar with this diagram which is taken from the *Electroconvulsive Therapy Task Force* book?

A. I am.

Q. And would you agree, sir, that this one up here is a sign wave? It's a continuous wave of electrons.

A. It's approximately a sign wave, yes.

Q. And then when we have a brief pulse, we're talking about this chart here, right?

A. That's correct.

9:53AM Q. Now, in a brief pulse, the electrons that do get through
9:54AM get through in bursts, yes?
9:54AM A. Yes.
9:54AM Q. And these electrons that get through in bursts are about
9:54AM 1 millisecond and then 7 or 8 seconds of no electrons, yes?
9:54AM A. No. You said 7 or 8 seconds.
9:54AM Q. I'm sorry, milliseconds.
9:54AM A. That's correct.
9:54AM Q. Sorry. So you have 1 millisecond of burst, and then 7 or
9:54AM 8 milliseconds of nothing?
9:54AM A. That's correct.
9:54AM Q. So if you have a -- 7 seconds where the machine is on,
9:54AM only 1 second of that is actually going into the person's body,
9:54AM yes?
9:54AM A. That's correct.
9:54AM Q. Now, what was used in Mr. Thelen was not the brief pulse,
9:54AM but the ultrabrief pulse, right?
9:55AM A. That's correct.
9:55AM Q. And the ultrabrief pulse is only .25 milliseconds of
9:55AM current followed by 7 milliseconds of nothing, right?
9:55AM A. I think that's correct based on the frequency.
9:55AM Q. So the amount of electrons that are going into a patient
9:55AM of ECT is .25 milliseconds followed by 7 or so milliseconds of
9:55AM nothing? In other words, you've got a quarter of the amount of
9:55AM current going through to the patient.

9:55AM A. That would depend on the frequency. I would need to know
9:55AM the frequency before I could answer that question.
9:55AM Q. Yes, sir. Let's look at that frequency. Does that help
9:56AM you?
9:56AM A. Yeah, 30 hertz.
9:56AM Q. Thank you. So answering my question then, it is one
9:56AM quarter of the amount of electrons that are being applied to
9:56AM that person's body, and then 7 milliseconds of nothing?
9:56AM A. Correct, yes.
9:56AM Q. So that would cut the total amount of electrons going
9:56AM through by one quarter of what you testified earlier about with
9:56AM a pulse rather than a brief pulse?
9:56AM A. In this case, yes.
9:56AM Q. And Mr. Thelen for all of his treatments got a brief
9:56AM pulse, right?
9:56AM A. That's my recollection, yes.
9:57AM MR. ESFANDIARI: Objection.
9:57AM Q. And those other -- those other electrical generators that
9:57AM you talked about, the taser and the stun gun, they're not using
9:57AM brief pulse; are they?
9:57AM A. The taser uses something very similar to brief pulse, yes.
9:57AM Q. But it doesn't -- it's not --
9:57AM A. As a matter of fact, they're shorter even than the ones
9:57AM that the Thymatron uses.
9:57AM Q. It uses -- are you saying that it uses shorter than an

9:57AM 1 ultrabrief pulse of .25?
9:57AM 2 A. Yes.
9:57AM 3 Q. Where are you getting your information on that, sir?
9:57AM 4 A. From the -- from the training manual for the taser X26
9:57AM 5 stun gun.
9:57AM 6 Q. And when that taser is shot at a -- I think you called
9:57AM 7 them a suspect. When the taser is shot at the suspect, it's
9:57AM 8 not shot at a bony area of the body; is it, sir? It's shot at
9:58AM 9 soft tissue?
9:58AM 10 A. That's correct, muscle tissue typically.
9:58AM 11 Q. And there's no real resistance at muscle tissue to the
9:58AM 12 electrical charge being -- hitting the body, is there?
9:58AM 13 A. No, that's not correct. Muscle tissue has its own
9:58AM 14 resistance.
9:58AM 15 Q. It's less than the skull; isn't it, sir?
9:58AM 16 A. Typically less than bone, yes.
9:58AM 17 MS. COLE: That's all the questions I have for you,
9:58AM 18 sir. Thank you very much.
9:58AM 19 MR. ESFANDIARI: Ms. Cole, can you leave your stuff
9:58AM 20 up there, please?
9:58AM 21 MS. COLE: My stuff?
9:58AM 22 MR. ESFANDIARI: Yes. Thank you.
9:58AM 23 REDIRECT EXAMINATION
9:58AM 24 BY MR. ESFANDIARI:
9:58AM 25 Q. Dr. Castleman, interesting. The questions I wanted to ask

9:58AM 1 you, she objected to, so she can ask --
9:58AM 2 THE COURT: Excuse me. That's not a proper predicate
9:58AM 3 for a question. Try again.
9:58AM 4 MR. ESFANDIARI: I understand.
9:58AM 5 BY MR. ESFANDIARI:
9:58AM 6 Q. All right, Dr. Castleman. Ms. Cole put up -- this is the
9:58AM 7 first treatment from Mr. Thelen, correct, Doctor, I believe?
9:58AM 8 A. That's correct.
9:58AM 9 Q. May of 2014, correct?
9:58AM 10 A. Yes.
9:58AM 11 Q. And you testified that he started out small, and then
9:59AM 12 gradually the energy output was increased for Mr. Thelen,
9:59AM 13 correct?
9:59AM 14 A. That's correct.
9:59AM 15 Q. All right. To the point that I believe you testified the
9:59AM 16 last 40 or so were at 100%?
9:59AM 17 A. That's right.
9:59AM 18 Q. All right. So Ms. Cole was talking about brief pulse and
9:59AM 19 ultrabrief pulse, and she pointed to this .25, right?
9:59AM 20 MS. COLE: Are you writing on my exhibit?
9:59AM 21 MR. ESFANDIARI: I can give you a new one.
9:59AM 22 BY MR. ESFANDIARI:
9:59AM 23 Q. She pointed to that one, correct?
9:59AM 24 A. Yes.
9:59AM 25 Q. However, the one that we were looking at, the final one,

9:59AM 1 the final treatment that he received actually and the majority
9:59AM 2 of the treatments that he received, what is the pulse listed?
9:59AM 3 A. It's one half of a millisecond.
9:59AM 4 Q. So double the one that she showed you from the first
9:59AM 5 treatment, correct?
9:59AM 6 A. That's correct.
9:59AM 7 Q. Now, there was a few questions she asked you that you
9:59AM 8 wanted to explain further. I frankly couldn't understand her
10:00AM 9 questions. She was talking about how many electrons are in
10:00AM 10 water versus the electricity that this machine is generating to
10:00AM 11 cause a seizure. You began to explain, but then you were
10:00AM 12 prevented from doing so. Please go ahead and give us why the
10:00AM 13 analogy she was talking about when it came to water versus
10:00AM 14 electricity, why that is not an accurate analogy.
10:00AM 15 A. Okay. The point she was making is that there are a huge
10:00AM 16 amount -- huge numbers of electrons in everything. Even a
10:00AM 17 small amount of water has billions and billions of electrons in
10:00AM 18 it. But when we talk about current, we're talking about the
10:00AM 19 number of electrons that are moving, because if an electron is
10:00AM 20 just sitting there spinning around its nucleus, no heat is
10:00AM 21 generated. No harm is done. But once those electrons start
10:00AM 22 moving, that's when you get energy transfer, when you get
10:00AM 23 heating building up and other changes taking place in the
10:00AM 24 tissue.
10:01AM 25 So the thing that's important in this situation is

10:01AM the current, the movement of the electrons, and so what we're
10:01AM concerned with here is how many electrons are moving during the
10:01AM treatment. That's what determines the amount of the dose.
10:01AM Q. And that's why when we drink a cup of water, we don't get
10:01AM a seizure, right?
10:01AM A. Correct. Those electrons are not causing any trouble.
10:01AM Q. Right. And that's why when we drink a cup of water,
10:01AM nobody need put us under anesthesia and give us muscle
10:01AM relaxers, right?
10:01AM MS. COLE: Objection, Your Honor. Beyond the scope.
10:01AM THE COURT: Sustained.
10:01AM BY MR. ESFANDIARI:
10:01AM Q. You were also asked about the amount of -- you testified
10:01AM there's 3 billion billion electrons being generated from the
10:01AM machine and what percentage of those actually make it to the
10:01AM brain. You recall that examination, Doctor?
10:01AM A. I do, yes.
10:01AM Q. And I also tried to ask that of you in direct, but the
10:02AM studies that have been done, what -- what are they indicating?
10:02AM A. They indicate that the higher resistance of the skull does
10:02AM cause a percentage of the current to flow not directly through
10:02AM the brain, but up through the scalp and potentially underneath
10:02AM the skull. In other words, every electron is finding its own
10:02AM path to get from one electrode to the other. But the studies
10:02AM that have been done -- and they've been done on cadaver

material, which is not exactly the same as living material -- but they've shown that it appears that between 5 and 10% of the current flow actually goes through the brain. The rest takes other paths through the head that do not involve going through the brain.

So it's -- it's -- it seems to be somewhere between 5 and 10% of the current actually flows through the brain.

Q. So these cadaver studies, these are basically people who have died, and then they're using their bodies to administer electricity on them to determine how much of the current actually makes it through the brain, right?

MS. COLE: Objection, Your Honor. Beyond the scope.

MR. ESFANDIARI: That's not beyond the scope, Judge.

THE COURT: I'll allow that. This is not another redirect where we have to cover everything that's already been covered in more detail. Go ahead.

BY MR. ESFANDIARI:

Q. Is that right, Doctor?

A. I'm sorry. Say again.

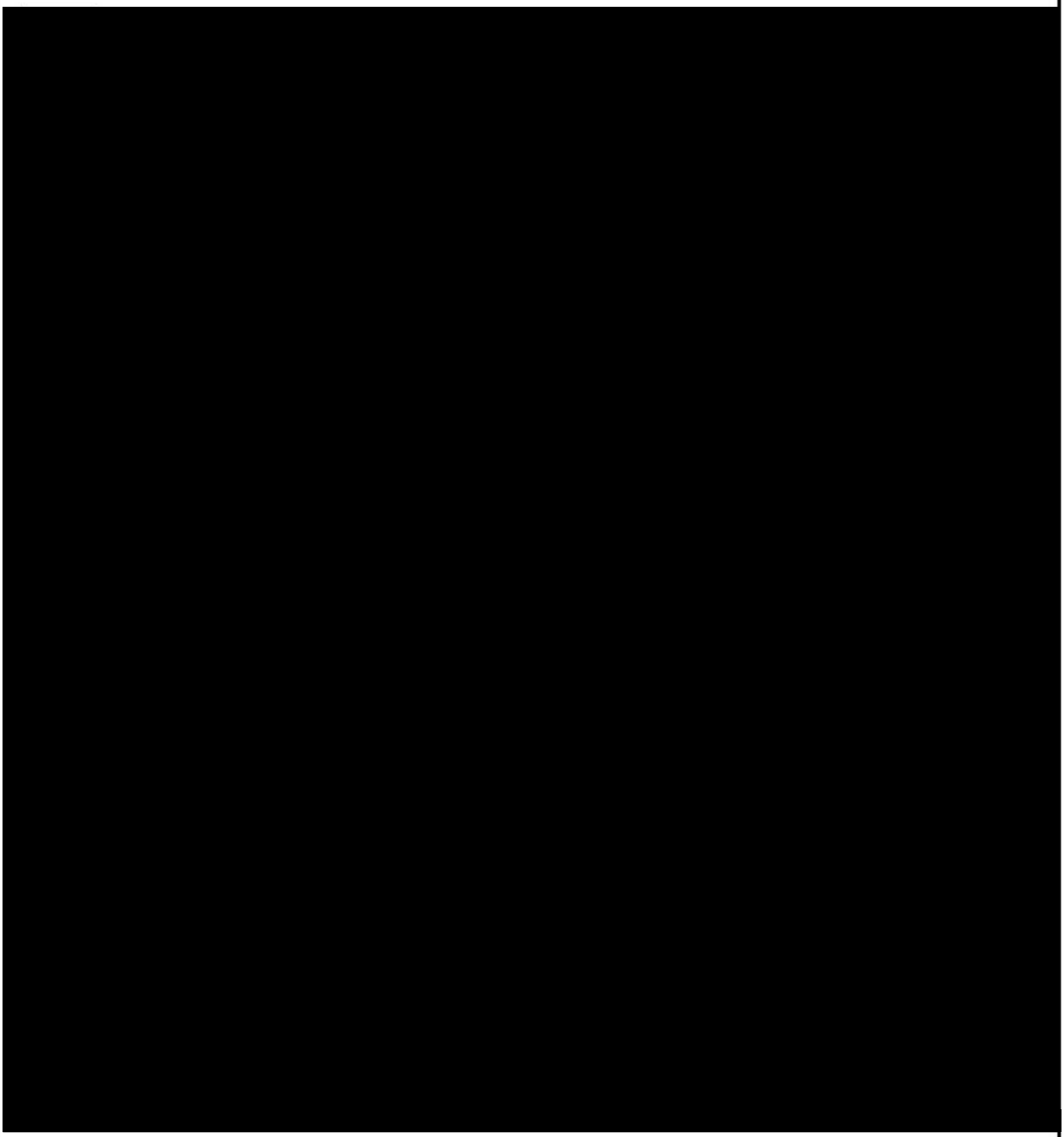
Q. These studies on cadavers, these are dead people, correct?

A. They are.

Q. To your knowledge, has anyone tested the amount of current that is generated, how much of that actually ends up in the brain of a living human being?

MS. COLE: Objection, Your Honor. Beyond the scope.

10:03AM THE COURT: Sustained.
10:03AM MR. ESFANDIARI: Your Honor, it's --
10:03AM THE COURT: Next question.
10:03AM MR. ESFANDIARI: Certainly, Your Honor.
10:03AM BY MR. ESFANDIARI:
10:03AM Q. The 10%, even assuming the 10% from these cadaver studies, how many electrons does that equate to, Doctor?
10:03AM A. Okay. That would be 300 million billion electrons.
10:04AM Q. Is that still a significant amount of current?
10:04AM A. It is. It's a large amount of current for that tissue.
10:04AM Q. And that's enough current to generate a seizure, correct?
10:04AM A. Absolutely.
10:04AM MR. ESFANDIARI: Thank you, Your Honor. Excuse me. Thank you, Dr. Castleman. You're excused, Dr. Castleman. Thank you.
10:04AM THE WITNESS: Thank you.
10:04AM THE COURT: Thank you.
10:04AM (Witness excused.)
10:04AM THE COURT: We'll take a very short break before the next witness. Just leave your tablets on the chairs. I will get you in just a minute. Thank you.
(Jury out at 10:04 a.m.)
10:04AM [redacted]
10:05AM
10:05AM



(Jury in at 3:45 p.m.)

THE COURT: All right. Have a seat. All right. Members of the jury, I will say at this point the lawyers have done an excellent job, at my encouragement and urging --

3:46PM COURT SECURITY OFFICER: Your Honor --

3:46PM THE COURT: Did we forget somebody? We forgot somebody. That's okay. This wasn't anything that can't be repeated. They've done an excellent job at moving the case quickly, and I'm now -- Steve is, like, looking. He can't find the other person. I think I know where they might be. I'm just guessing, but that's personal if that's where they are.

3:47PM See how important you were? We almost started without you.

3:47PM A JUROR: I was looking out the window.

3:47PM THE COURT: Nobody realized you weren't there. No, you're very important.

3:47PM I was telling anybody else, the lawyers have done a really nice job in moving the case along. It may not have seemed that way to you, but trust me, they are doing that.

3:47PM And I'm happy to report that we are at this point significantly ahead of schedule. I indicated to you in the jury selection that we would be done no later than Friday. It's now possible -- not promising. It's possible that the case may -- you may be deliberating as soon as Wednesday. All right?

3:47PM Now, that having been said, we're going to end early today, right now, because we have some things we need to do to make that happen, and rather than have you sit in the back for long periods of time, it's better for you just to hit

3:47PM 1 the road now, beat traffic, get out a little early today.
3:48PM 2 We're going to start at the same time tomorrow,
3:48PM 3 9:00. We're going to go the same game plan we've been doing,
3:48PM 4 but we are doing well time-wise, and I thank you for your
3:48PM 5 attention today.
3:48PM 6 Remember the rules that I said about not
3:48PM 7 communicating with each other. Don't do any research, nothing
3:48PM 8 of that nature. And if we continued today for another hour or
3:48PM 9 so, we still would be done at the same time. So we're not
3:48PM 10 really losing anything at the end, and I think this is the best
3:48PM 11 way to proceed.
3:48PM 12 So thank you for your time today. And we will
3:48PM 13 see you again tomorrow at 9:00.
14 (Jury out at 3:48 p.m.)
3:49PM 15 [redacted]
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4:13PM 25

[redacted]

(End of proceedings.)

* *

UNITED STATES DISTRICT COURT

MIDDLE DISTRICT OF FLORIDA

REPORTER TRANSCRIPT CERTIFICATE

I, Tana J. Hess, Official Court Reporter for the United States District Court, Middle District of Florida, certify, pursuant to Section 753, Title 28, United States Code, that the foregoing is a true and correct transcription of the stenographic notes taken by the undersigned in the above-entitled matter (Pages 1 through 250 inclusive) and that the transcript page format is in conformance with the regulations of the Judicial Conference of the United States of America.

Tana J. Hess, CRR, RMR, FCRR
Official Court Reporter
United States District Court
Middle District of Florida
Tampa Division
Date: June 13, 2023