IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF ARKANSAS
CENTRAL DIVISION

DYLAN BRANDT, et al.,

Plaintiffs,

v. No. 4:21CV00450 JM

October 17, 2022
Little Rock, Arkansas
8:59 AM

LESLIE RUTLEDGE, et al.,

Defendants.

TRANSCRIPT OF BENCH TRIAL - VOLUME 1
BEFORE THE HONORABLE JAMES M. MOODY, JR.,
UNITED STATES DISTRICT JUDGE

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Proceedings reported by machine stenography. Transcript prepared utilizing computer-aided transcription.

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EXHIBITS RECEIVED:

(Proceedings commencing in open court at 8:59 AM.)

THE COURT: We're on the record in Dylan Brandt, et al. versus Leslie Rutledge, et al. Case 4:21CV450. We're here on a hearing on the merits of Dylan Brandt's complaint. Before we get into it too much, I want to first address there was a question over the weekend whether or not I would accept the parties' joint pretrial order. I guess that's what it was called, about whether you were going to waive opening statements and agree to a few things. I don't know if you got the message, but I'm happy to do so. Any time y'all agree to something, I'm generally receptive to that.

I've reviewed again recently the complaint, the Act, the pretrial disclosures, the trial briefs, the proposed stipulation -- well, the stipulations as well as Defendants' proposed stipulations, the Eighth Circuit order, my order. I've got several deposition designations that I have read, several depositions that I have read, and several amicus briefs that I have read, more than once.

I'd like to get first to document 183-1, which appears to be the joint stipulations of fact. The one I have is technically marked two pages, starts with page 2 of 13. Is that the latest stipulation of fact that I need to accept or have y'all got some additions? I take it by your silence that that's the operative one. There's also a separate document that is 187 which is Defendants' proposed stipulations of fact,

which of the ten paragraphs, appear to me to be statements that shouldn't be in much dispute. What is the plaintiffs' position on Defendants' proposed stipulations of fact 1 through 10? It's document 87.

MR. STRANGIO: Your Honor, just a moment. We're pulling up the document now.

THE COURT: And at least today and early on, every time anybody speaks, if you can identify yourself for the benefit of my court reporter, Karen, and there'll be three separate court reporters cycling in and out. So the notion that you told us this morning may not help the court reporter this afternoon.

MR. STRANGIO: Yes, Your Honor. This is Chase Strangio on behalf of the plaintiffs. And we are just pulling up the defendants' proposed stipulations of fact right now.

THE COURT: Each time we just need your name, not who you necessarily represent. It should be apparent, but it has such things as this is when the act was passed, this is when it was effective, this is how old the plaintiffs were at the filing of the complaint, things that seem to be beyond dispute. Yes, sir.

MR. BODAPATI: Good morning, Your Honor. Arun Bodapati of Sullivan & Cromwell. Plaintiffs are fine with Defendants' proposed stipulations of fact, it's just that the parties hadn't come to an actual agreement. 183-1 we believe

were our proposals and 187 were Defendants.

THE COURT: So y'all are willing to agree to 187?

MR. BODAPATI: Yes.

THE COURT: Then I'll accept those too.

MS. LAND: Your Honor, Amanda Land. I just wanted to note to the extent that wasn't clear. Defendants were not stipulating to the proposed joint stipulations on 183-1, I believe is the document Your Honor referred to. It's our understanding those were Plaintiffs' proposed joint stipulations that were not stipulated to by Defendants.

THE COURT: So which ones can you stipulate to?

MS. LAND: Our proposal was the 187.

THE COURT: And you're not going to stipulate to any of these facts here in their joint stipulations?

MS. LAND: Only to the extent those were in document 187.

THE COURT: Okay. So, for instance, number 9, you can't stipulate that Dylan is 17 years old? You can't stipulate to any of these things? You may need to work on that one. I'll get back with you on that. Because there's some that seem to be similarly out of dispute that it's a birthday, and it can calculate to a number that I'm not going to take evidence on in a limited amount of time if y'all can stipulate to things that are beyond dispute.

MS. LAND: Yes, Your Honor, we can stipulate to

their ages.

THE COURT: Well, more than that. I just picked one out in the first page or second page that I was looking at that seemed something that should have been stipulated to. I understand you don't have to. But it seems a little ridiculous that you can't stipulate to a birthday because I'm not sure there's going to be testimony back and forth disputing some of those facts. That's the whole point. We've been in this case for quite some time and y'all could have verified those facts, so I want you to take another look at that and maybe get back with me on what you can stipulate to out of what I thought was a joint stipulation, not a proposed stipulation.

MS. LAND: Yes, Your Honor. We can take a look at those again.

THE COURT: Thank you. Which perhaps calls into doubt the fact that I've got Plaintiffs' admitted exhibits. Of these exhibits, how many do you stipulate to, if any?

MS. LAND: I believe on the list that the plaintiffs submitted to the Court, it should indicate which ones the defendants have stipulated to. There were several.

THE COURT: I have a notebook with no exhibit lists that says what's been stipulated to or what's not. It just says Plaintiffs' admitted exhibits, which would lead me to believe that they're stipulated to.

MR. BODAPATI: Your Honor, Defendants stipulated to

the admissibility of Plaintiffs' Exhibits 1 through 8, 10, 12, and 16, all which are contained in that binder. Plaintiffs also submitted an exhibit list to your courtroom deputy, I believe, on October 12th.

THE COURT: I may need to get a copy of those. Was it by email? Because I was told last week that we didn't have witness and exhibit lists yet.

MR. BODAPATI: Yes, Your Honor, it was by email.

THE COURT: Who did you send it to?

MR. BODAPATI: I believe Kacie Glenn.

THE COURT: Who's been out for the last bit.

MR. BODAPATI: Yes, Your Honor. At 6:00 p.m. on Wednesday, October 12th, we sent it.

THE COURT: While she's looking up that, I have Defendants' stipulated exhibits. Are those indeed stipulated to?

MR. BODAPATI: Yes, Your Honor. Plaintiffs do stipulate to those exhibits. Plaintiffs are also happy to resubmit their exhibit lists if that would be more efficient.

THE COURT: It can't be because we'll know in just a second. So I have exhibits that I'm going to receive right now, Karen. Defendants' 1, 2, 3, 4, 13, 14, 15, 16, 17 through 28, 29, 39, 40, 41, 44, 46 through 52 --

MR. BODAPATI: Your Honor, with apologies, we believe that's actually just a list of all of Defendants'

exhibits, not the ones that we stipulated to. If you'd like, we can list those out. We did not send a witness list, but we can do so.

THE COURT: So I've been handed a notebook that has Defendants' stipulated exhibits with a list in front of it. Is that list not a list of what is stipulated to?

MR. BODAPATI: I can certainly say at least of a few that you've mentioned, such as Defendants' Exhibits 13, 14, 15, and 16, Plaintiffs have outstanding objections to those documents.

THE COURT: Did y'all give me a book that's got a list of exhibits in the front that aren't, in fact, stipulated to, Ms. Land?

MS. LAND: Your Honor, the list should have an indication as to each number, an indication of whether it was stipulated to in a separate column.

THE COURT: So is this a total exhibit list but only the ones that were stipulated are actually in the book?

MS. LAND: That is correct.

THE COURT: Okay. I'll start over. The plaintiffs have stipulated to Defendants' 1 through 4, 44, 48, 51, 52, 76, 79, 80, 81, and that's it. So of Plaintiffs' exhibit list, Ms. Land, which ones can you stipulate to? I think I've got, if they're in this book, 1 through 8, 10, and 12?

MS. LAND: That is correct.

THE COURT: And 16 perhaps?

MS. LAND: Defendants are stipulating to Exhibit 16 of the plaintiffs'.

(Defendants' Exhibits 1 through 4, 44, 48, 51, 52, 76, 79, 80, 81 received in evidence.)

THE COURT: Then those will be received as well. I was told that Friday the parties were informed that despite the fact y'all had asked for two weeks, the Court had scheduled one week for this case.

(Plaintiffs' Exhibits 1 through 8, 10, 12, 16 received in evidence.)

MR. BODAPATI: Your Honor, Plaintiffs were not aware that the parties were only going to have one week to present both of their cases.

THE COURT: I think you were on Friday.

MR. BODAPATI: Our understanding was just that the Court would be scheduling some hearings during the second week, but we still thought that testimony would be taken in this matter as well.

THE COURT: Not next week. We can go as late as you need to at night to make up for that, but this case is scheduled in light of all the deposition designations and the fact that this has been to the Eighth Circuit and back on several issues. This case is going to get done this week or if you need to come back some other time perhaps in December,

that'll be available. But next week is not. I do have hearings scheduled this week as well at lunch that won't get in your way, but that understanding was that there were other hearings scheduled this week, not next week. Next week is full. I mean the hearings that potentially would get in your way are 30-minute hearings that will be held at the lunch hour that will not get in your way. Next week is booked up. So how late at night do y'all need to go to get it done?

MS. COOPER: I think we probably would need to confer with opposing counsel. This is information we apparently misunderstood. We thought there would just be some portions of times next week that would not be available. We did not understand the whole week was blocked off. So I suspect we will need to confer with opposing counsel about how we should proceed in light of --

THE COURT: How long do y'all want to go this afternoon? Or we can talk about it after lunch.

MS. COOPER: Thank you.

MR. JACOBS: The problem for us, I think, is that our experts in particular are scheduled to fly in next week so that will create significant problems if that can't happen.

THE COURT: Well, it can't happen so it's going to have to either happen this week or sometime in December because that's the Court's next available time. I don't have to tell you what I've got, but I've got a two-week case that used to be

Judge Holmes's that's getting tried. I've got another week-long case that I've got, I mean, that's my next available time.

MR. JACOBS: Understood, Your Honor. I think we'll have to confer and figure out what we'll have to do about that.

THE COURT: Fair enough. Thank you. Any other thing we can do before we get started to expedite y'all's presentation?

MR. BODAPATI: Yes, Your Honor. A few things. First with regard to the exhibits, Plaintiffs would move to seal a number of Defendants' exhibits, including some of those which have been stipulated as admissible.

THE COURT: Seal Defendants' exhibits?

MR. BODAPATI: Yes.

THE COURT: Okay, I'm in that notebook. I'm on the same page so to speak. Go ahead.

MR. BODAPATI: Those would be Defendants' Exhibits 48, 51, 52 --

THE COURT: Hang on. You're telling me all the ones you want to seal whether they've been admitted or not, correct?

MR. BODAPATI: Yes, Your Honor. Including the ones that have not been admitted yet, Defendants' Exhibits 47, 48, 51, 52, 76, 77, 79, 80, and 81.

THE COURT: Any objection to those predominantly medical records being sealed by the defendant?

MS. LAND: No, Your Honor.

THE COURT: I'm not sure what that means other than they're sealed for the appellate record. They're not going to be publicly available unless y'all make them so.

MR. BODAPATI: Two other considerations, Your Honor. In the Court's September 29th, 2020, courtroom protocol, it mentioned making a set of the stipulated exhibits available to the media. So we would naturally request that those exhibits not be included in those made available to the media. And as well, the parties have generally agreed that to the extent that there's any witness testimony on the subjects of those medical records, we would ask that those portions of the testimony be conducted confidentially as well.

THE COURT: That's going to be up to you to let me know when that happens.

MR. BODAPATI: Understood, Your Honor.

THE COURT: Because I don't know when it's coming or when it might come in. And I would appreciate knowing at least by the half day if you anticipate that from morning to lunch that's going to be an issue or whether or not lunch to afternoon that's going to be an issue so I can let people know that we're going to be evacuating the courtroom and closing down the video feed for whatever period of time that you anticipate. It helps me know at least an hour or two ahead of time that that's potentially coming. We've dealt with it

before and it's awkward but manageable.

MR. BODAPATI: That won't be a problem, Your Honor.

THE COURT: Anything else?

MR. BODAPATI: Yes, one more. The Court did mention the deposition designations, and at least in terms of Plaintiffs' exhibits, that forms the vast majority of the outstanding objections. So the Court did mention that it would rule on the admissibility of the deposition designations in conjunction with the trial. We were just hoping for some more guidance from the Court on how it would do so.

THE COURT: I'm essentially going to take this case under advisement, read all the depositions and indicate at that time what I think is either relevant, admissible, or beneficial to the Court.

MR. BODAPATI: Thank you, Your Honor. We would appreciate it just because if the Court does intend to exclude any portions of those deposition designations, Plaintiffs would consider calling those witnesses live.

THE COURT: It won't be excluded on the fact that they weren't here to testify live. I mean, if the testimony that you were going to offer that I wasn't going to admit, you can proffer the entire depositions and I'll either determine whether or not it's relevant or probative or whatever you want to call it, but the notion that you would call them to testify to what's in their deposition that I excluded wouldn't help you

much because I'm not going to exclude them on the fact that they weren't here to testify.

MR. BODAPATI: Understood, Your Honor.

THE COURT: I think you're safe there and you don't have to do that. I think we understand each other.

MR. BODAPATI: We understand, Your Honor.

THE COURT: Their live testimony won't help that testimony getting in one way or the other.

MR. BODAPATI: Yes, Your Honor.

THE COURT: It won't get you any further along the road is what I'm trying to say.

MR. BODAPATI: Understood. Just two more points from Plaintiffs. So one more was the last remaining set of Plaintiffs' exhibits are transcripts of the legislative hearings that led to the enactment of Act 266. We think those are judicially noticeable in any event, but we would also just maintain Defendants' objections to those lack a sufficient basis in the rules of evidence.

THE COURT: What's Defendants' position on the transcripts of the legislative hearings?

MS. LAND: Your Honor, the defendants' position is that they are not relevant to what this court is deciding as to the issues that Plaintiffs have presented to the Court as well as contains multiple individuals. So it would be a hearsay objection on the part of the defendants as well as to the

extent any witnesses therein are not qualified to give expert or legal opinion testimony, Defendants would maintain an objection as to that. But primarily it is a relevance objection, Your Honor.

THE COURT: Let me write this down. You got a relevance objection as to the legislative hearings on this particular law. You're claiming that whoever talked about it wasn't competent for either reasons that they weren't qualified -- or I'm not sure I followed you there. The people who testified in the legislative hearing you're claiming are more like a *Daubert* objection that they weren't qualified to give opinions in those hearings? I'm confused.

MS. LAND: No, Your Honor. To the extent that -- the relevance objection is to the extent the Court would bring any of the testimony into evidence, Defendants maintain that looking at that testimony is not relevant to determining whether this law is constitutional or not.

THE COURT: I got that part.

MS. LAND: Very much on that same basis, the defendants maintain that what the Court needs to be looking at as to opinion testimony are the experts that are presented here today and not considering what was --

THE COURT: I thought you were saying as to the transcripts is what I was talking about, that anybody that testified in those hearings wasn't competent to do so, because

of *Daubert* type things. Is that not what you said?

MS. LAND: No, Your Honor.

THE COURT: Then you've got a relevance objection as to the transcripts?

MS. LAND: Correct.

THE COURT: Nothing else?

MS. LAND: Defendants would maintain a hearsay objection as well. As we mentioned, it's primarily relevance.

THE COURT: Okay. I haven't seen them, haven't reviewed them. I'll let you know on that as well.

MR. BODAPATI: Your Honor, Plaintiffs' final point regards a set of documents that was submitted to the Court in camera. Plaintiffs were just wondering if the Court could provide an update on when it might rule on the ability of Plaintiffs to review those documents.

THE COURT: I thought I had already done that. I reviewed at least a couple of hundred -- are you talking about the emails?

MR. BODAPATI: Certainly, yes. Our understanding is that the Court reviewed a set, but Plaintiffs submitted a further set that we're waiting further review, and the legislators' counsel also submitted an additional 16 documents that the Court had ordered them to produce but which they believed required further in camera review.

THE COURT: I thought I had already looked at those

and made a ruling on those. If you'll get me what -- some way to find those. I mean, I've looked at several hundred emails and made rulings on whether or not those emails were, one, either privileged or shared with third parties, whether or not they were relevant to this proceeding, and I wasn't aware of another batch that I was supposed to be looking at, but it went back and forth and some renewals of some objections and those were overruled and some didn't have anything to do even with this law that were produced and were clearly irrelevant. Others I thought I had ordered and turned over to you. So you're saying that you weren't aware that I had ordered anything turned over?

MR. BODAPATI: No, no, Your Honor. We are aware of the Court's August 4th order which ruled on many of the documents, but we had understood that there was a subset that had yet to be ruled on.

THE COURT: If you'll bring those to my attention, I'll give it a look, but I was not aware that I owed you -- that I had anything left to be done on that account.

MR. BODAPATI: We will do so, Your Honor.

THE COURT: Okay.

MR. BODAPATI: That's all from Plaintiffs.

THE COURT: Anything from the defendants?

MS. LAND: Just one more thing, Your Honor. As to the copies of exhibits that the Court has ordered be produced

to the media. The parties were wondering how Your Honor would like to deal with any nonstipulated exhibits that come out throughout the trial, if Your Honor would prefer they be produced at the end of each day to the media, at the end of the parties' case in chief, just to deal with it more efficiently?

THE COURT: In fairness, I haven't given it a second thought. How the media gets ahold of these exhibits, I have no idea other than they somehow make it to the public record. Unless the parties are providing those exhibits to the media out of hand. I don't know how that works and so I'm a little bit at a loss, Ms. Land, as to how to answer that question because I didn't know how they were going to get them in the first instance.

MS. LAND: Defendants on their part have printed off paper copies of just -- well, of all the exhibits. However, it has pulled only those stipulated exhibits for now, and of course, the nonstipulated exhibits contingent on how the Court might rule upon them, the defendants are prepared to produce those in a separate binder.

THE COURT: Have you produced any of these that we just sealed?

MS. LAND: Those have all been pulled because Defendants were aware that Plaintiffs would be moving the Court to seal those, so those are not in the media copy.

THE COURT: Thank you. I guess the media

understands for HIPAA reasons and otherwise, the medical records aren't ever going to be made available to them. So you're talking about exhibits that I might receive during the course of the hearing that have not previously been stipulated to or admitted and how those make their way, I guess, the same way the other ones did, that you decide once they've been admitted that if you want to share, you do so. I don't know how else to handle that.

MS. LAND: Would it be okay if the parties conferred about whether to do that at the each of each day or at the end of the trial itself?

THE COURT: That's not up to me. Yes, in short answer. I'm not sure I get involved in that other than if I ruled that admissible exhibits that haven't been sealed are available to the media, however those get to the media is up to you guys, and I don't generally get involved in that.

MS. LAND: Understood. Thank you.

THE COURT: Thank you. Anything other than that?

MS. LAND: No, Your Honor.

THE COURT: Call your first witness.

MS. COOPER: Thank you, Your Honor. We will call Dr. Dan Karasic as our first witness.

DAN KARASIC, PLAINTIFFS' WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. COOPER:

Q Good morning, Dr. Karasic. Could you please state your name for the record and spell it?
A Sure. My full name is Dan Halaban Karasic. First name, D-a-n. Middle name, H-a-l-a-b-a-n. Last name, K-a-r-a-s-i-c.
Q Thank you. Dr. Karasic, what is your profession?
A I'm a psychiatrist.
Q Could you please summarize for the Court your formal education and training?
A Sure. I got a bachelor's degree at Occidental College and then went to medical school at Yale University School of Medicine. I trained in psychiatry at the UCLA Neuropsychiatric Hospital and I did a NIH fellowship at the latter part of my residency.

THE COURT: Ms. Cooper, I'm not trying to get in your way right off the bat, but I've got his CV and I've reviewed it, if that'll save you any time. It's up to you. You can do what you want. But since we're not in a jury trial and I'm aware of at least what's on his CV, which is Plaintiffs' Exhibit 2, I just didn't want you to spend a lot of your time establishing things that I've got right here, but go ahead.

MS. COOPER: Your Honor, I think we can skip the qualifications discussion if there aren't going to be any questions from opposing counsel regarding qualifications or any request to voir dire.

THE COURT: Are there any?

MR. CANTRELL: Your Honor, Michael Cantrell with the Arkansas Attorney General's Office for the Defendants. If I could have opposing counsel speak up a little bit. I have a little difficulty hearing.

MS. COOPER: Yes, I was saying that I think we could skip past the qualifications portion of his testimony if there is not going to be a voir dire on qualifications from State's counsel.

MR. CANTRELL: We don't plan to voir dire the witness.

THE COURT: Mr. Cantrell or whomever from whatever seat, if you have trouble hearing, we can try to turn up -- the speakers aren't really anywhere near you. If you are going to be cross-examining this witness and want to move from there to the jury box some place so you can hear, I recommend both sides move about the courtroom so you can hear, and I'll just say that off the bat. I don't mind if you -- last week we had to get a guy who was deaf as a post move a chair right next to the podium during direct, so I don't mind if it helps you move about or anyone move about to hear what they need to hear. I don't want you to be that guy sitting up in the penalty box or whatever, but I'm offering it to you if you can't hear.

MR. CANTRELL: I appreciate that and I very well may take advantage of that at some point.

THE COURT: You don't have to ask. Just get up and move and I'll know why. I'm sorry, Ms. Cooper, I've completely blown up your start.

MS. COOPER: Not at all, Your Honor. I would like to just bring out a couple of points on the witness's qualifications and then can move on to his opinions.

BY MS. COOPER:

Q Dr. Karasic, have you treated patients with gender dysphoria during your career?

A Yes, I have.

Q Approximately how many patients with gender dysphoria have you treated?

A I can't give a precise number, but thousands of patients over 30 years.

Q Of those patients, did they include adolescents with gender dysphoria?

A Yes.

Q Can you give an estimate of the number of adolescents you've treated with gender dysphoria?

A I would say in the hundreds.

Q Thank you.

Your Honor, I would move to have Dr. Karasic qualified as an expert in psychiatry and specifically the treatment of gender dysphoria in adolescents and adults.

THE COURT: Ms. Cooper, I don't usually receive an

expert. He can testify to whatever you ask him to. And that's more generally than just this individual that so far you're on firm ground to ask him whatever you want until there's an objection.

MS. COOPER: Thank you, Your Honor.

BY MS. COOPER:

Q Dr. Karasic, you mentioned you've treated adolescents and adults with gender dysphoria. What is gender dysphoria?

A So gender dysphoria is distress about the incongruence between one's gender identity and one's sex assigned at birth.

Q Before moving on I'd like to ask you to clarify some terms. You used the term "gender identity". What does that mean?

A Gender identity is a deeply felt sense of being male, female or another gender.

Q And you also used the phrase "sex assigned at birth". What does that mean?

A So that is the sex assigned by the -- typically by the doctor or one of the delivery team when a baby is born based -- typically based on the appearance of external genitalia.

Q What does the term "transgender" mean?

A Transgender is someone who has a gender identity that differs from the sex assigned at birth.

Q And can you tell us about the term "nonbinary", how that term is used?

A Nonbinary refers to a gender identity that is neither male nor female or some mix of both.

THE COURT: What was that last part?

THE WITNESS: Or some mix of the elements of both.

THE COURT: Thank you.

BY MS. COOPER:

Q Going back to gender dysphoria. Is there a psychiatric diagnosis associated with gender dysphoria that is used in this country?

A Yes. In the DSM-5 and DSM-5-TR, the new text revision, there is a diagnosis of capital D gender -- capital G capital D gender dysphoria is the title of the diagnosis.

Q Is there more than one diagnosis of gender dysphoria?

A Yes. There are different criteria for children before puberty and a separate one for adolescents and adults.

Q You mentioned the DSM. What is that?

A The Diagnostical and Statistical Manual of Mental Disorders which is updated by the American Psychiatric Association. It's a list of mental disorders, updated every several years.

THE COURT: Doctor, can I ask you a quick question? We've got three age groups. One is children, adolescents, and adults. How do you define adolescents?

THE WITNESS: Adolescents are people who have started puberty.

THE COURT: So it's not a specific age because that varies, but those who would be starting puberty to 18?
THE WITNESS: Right. So typically it's defined as --
THE COURT: You've answered what I needed. I just didn't know what bracket to put adolescents in for purposes of this case. Thank you.
THE WITNESS: The DSM lumps adolescents and adults into the one diagnosis.
BY MS. COOPER:
Q How is the DSM used by mental health professionals in caring for patients?
A The DSM is a categorization that's used by health professionals to make a mental health diagnosis and it's also used in research.
Q And have you diagnosed patients with gender dysphoria?
A Yes.
Q Approximately how many?
A I would say in the thousands.
Q Could you summarize the diagnostic criteria for gender dysphoria, just in general terms?
A Broad summary, it's someone who has a gender incongruence, a difference between their experience or expressed gender and their sex assigned at birth, their gender assigned at birth that has lasted at least six months, there

are a set of other possible or supporting symptoms and has to have clinically significant distress or social or occupational impairment.

Q Does the fact that someone is gender nonconforming mean they have gender dysphoria?

A No.

Q How is gender dysphoria diagnosed in patients?

A So gender dysphoria is diagnosed by clinical interviews and exam. So a clinician meets with a patient and through questioning the patient and examination of the patient in different ways, mental status exam, makes a DSM diagnosis.

Q And when the patient is a minor, are the parents involved in that in any way?

A Yes. Typically the -- certainly when I'm making the diagnosis, the parent or parents or legal guardian are present and for at least part of the interview and provide collateral information to make the diagnosis.

Q Some of the State's experts have taken issue with the legitimacy of the gender dysphoria diagnosis asserting that it's really a self-diagnosis because it's based on what the patient reports. Do you have a response to that?

A Yes, that's not true. A clinical interview is -- a clinical diagnosis is made by a clinical interview and exam with a -- by a qualified clinician, so that's different from what somebody -- can be different from what somebody's own

self-conception of what their diagnosis is.
Q Is it unusual in psychiatry to make diagnoses based on clinical interviews with patients and with minors and parents?
A No, that's pretty much how we make all of our diagnoses based on the DSM is through clinical interview and exam.
Q In your experience what are some of the consequences of gender dysphoria you've seen in your patients prior to receiving treatment?
A So I very often have had patients who are really profoundly impaired by gender dysphoria that -- patients who have -- who are in severe distress or pain by the DSM diagnosis clinically significant distress, and many patients who have withdrawn from school, or in older people, jobs, and so they can be quite impaired in terms of social or occupational malfunctioning in terms of their relationships with other people as well as other kinds of functioning outside the home.
Q Are there consequences related to other mental health issues that are associated with gender dysphoria?
A Yes, there are elevated rates of people having depression, anxiety, sometimes suicidal thoughts or thoughts of self-harm.
Q Have you had patients with gender dysphoria including adolescent patients who have had suicidal thoughts or made suicide attempts?
A Yes.

Q Have you had patients with gender dysphoria who have engaged in other forms of self-harm as a result of the gender dysphoria?

MR. CANTRELL: Your Honor, just object to the leading questions.

MS. COOPER: May I rephrase?

THE COURT: Sure.

BY MS. COOPER:

Q Are there other harms you've experienced among your patients who have gender dysphoria prior to treatment?

A Yes. In addition to suicidality or suicide attempts, I've had patients self-harm like cutting a breast or genitals.

Q Is gender identity something someone can voluntarily change to be congruent with their sex assigned at birth?

A No.

Q Have there been efforts in your field or in the field of psychology to try to change a transgender person's gender identity through therapy?

A Yes, but those efforts have not been demonstrated successful.

MR. CANTRELL: Your Honor, again, I just object to the leading form of the questions.

THE COURT: I'm not going to sustain the objection at this time. I'm just going to ask that you do your best not to lead the witness. He's an expert and likely knows his

views, but go ahead.
BY MS. COOPER:
Q Okay. You mentioned that these efforts have not been successful. Can you explain what is known about these efforts?
A Sure. There's been documentation of efforts to change gender identity going back to the 1960s, and also documentation or lack of documentation of success of such efforts as well as a perception of harm by many clinicians and therefore many mainstream health organizations including a long paper by the American Psychological Association have denounced, I'd say, gender identity change efforts.
Q You mentioned that such efforts can cause harm or clinicians perceive harm in their patients. Can you explain how?
A Yes. So gender identity change efforts can increase feelings of shame or low self-esteem, they can put an expectation on an individual that change is possible when they're not able to change and that can increase a sense of failure. There's a little bit of evidence in the literature of increased suicidality in people that have been exposed to conversion therapy, but really I think for clinicians, it's our own personal experience of people who have been exposed to efforts to try to change their gender identity and felt worse as a result.
Q You testified that people can't voluntarily change their

gender identity, but is it possible that someone's gender identity can change or their understanding of their gender identity can change over time?

MR. CANTRELL: Your Honor, again, object to the leading form of the question.

THE COURT: Overruled.

THE WITNESS: For most people, gender identity is quite stable, but some people evolve in their gender identity over the course of development or course of a lifetime.

BY MS. COOPER:

Q I want to turn back to gender dysphoria. Are there any guidelines recognized within the medical and mental health fields for treatment of patients with gender dysphoria?

A Yes.

Q Can you describe some of the leading ones?

A Yes. So probably the most prominent and well used one are the Standards of Care of the World Professional Association for Transgender Health which recently was released in an 8th revision. WPATH, since 1979, periodically revises their Standards of Care. The Endocrine Society has put out guidelines, the last version was in 2017. And then there have been guidelines from other organizations as well.

Q You referenced the World Professional Association of Transgender Health. Can I call that WPATH?

A World Professional Association for Transgender Health.

Q For Transgender Health, thank you. And you referred to a document called the Standards of Care, the WPATH Standards of Care. I want to ask you, the term Standards of Care can have a legal meaning relating to legal duties of doctors. Does the term Standards of Care and the WPATH Standards of Care have that meaning or something else?
A The Standards of Care are clinical practice guidelines.
Q Are you familiar with the process used to develop the Standards of Care, the WPATH Standards of Care including the most recent version?
A Yes. I was -- yes, I was on the committee that wrote the WPATH Standards of Care versions 7 and 8.
Q Who was involved in developing the recommendations in the WPATH Standards of Care?
A The recommendations are developed by a committee of largely well-renowned experts, people who lead transgender health programs or who did research in transgender health from around the world.
Q How long did the process take to develop and publish the Standards of Care 8?
A Standards of Care 8 took five years from the start to its recent publication.
Q Is there discussion of adolescents in Standards of Care 8?
A Yes, there's a chapter on adolescents.

Q You mentioned the Endocrine Society Guideline. Are you familiar with that guideline?
A Yes.
Q And why is that, given that you're not an endocrinologist?
A Well, I don't use that guideline as often, but it did have some utility because the WPATH Standards of Care came out and was released initially in 2011 and then the Endocrine Society Guidelines revision was 2017, and so it kind of was some interim information, not something I used every day in the same way I use the standards of care.
Q When you say the Standards of Care were initially introduced in 2011, you're not referring to the first --
A No, I'm sorry, Standards of Care version 7 was released in 2011, published in 2012. And then it was over a decade before Standards of Care 8 came out. So the Endocrine Society Guidelines were kind of in the middle.
Q Does the Endocrine Society Guideline make any recommendations relating to the care of adolescents with gender dysphoria?
A Yes.
Q Focusing on the WPATH Standards of Care and the Endocrine Society Guideline, how are they viewed within the medical and mental health professional communities?
A They're widely used. I would say especially the WPATH

Standards of Care.
Q Are they recognized as best practices by any professional groups?
A Yes. Many large mainstream medical and mental health organizations recognize the WPATH Standards of Care in different ways as an authority and practice guidelines for transgender health.
Q Could you name some of those organizations?
A Sure. The American Psychiatric Association that I'm part of, the American Psychological Association, American Medical Association, the American Academy of Pediatrics are some of the many organizations that recognize the WPATH Standards of Care.
Q Do you follow those WPATH Standards of Care recommendations in your own clinical practice?
A Yes.
Q In your experience, are the WPATH Standards of Care and Endocrine Society Guidelines recommended practices followed by -- widely followed by other clinicians?
A Yes.
Q And how do you know that?
A So I have been a university professor for over 30 years and have done a lot of teaching, a lot of presentations on transgender health. I have done presentations and have done day-long trainings for the American Psychiatric Association for psychiatrists in transgender health and I've trained over 2,000

healthcare providers through WPATH's education efforts.
Q What do you learn from these other clinicians about their practices through these interactions?
A That people are in various degrees familiar with the WPATH Standards of Care and certainly use them. There are also often requirements for insurance or other reasons that people use them, but there's widespread knowledge and a good amount of familiarity with the standards of care among healthcare providers more broadly who take care of at least some transgender people.
Q In practice guidelines like the WPATH Standards of Care, the Endocrine Society Guideline, and similar guidelines that may be used in other areas of medicine, is it ever appropriate for doctors to deviate from a guideline recommendation for a particular case, particular circumstance?
A Yes. The Standards of Care say that they are recommendations for care, but that clinical judgment should also be involved and there may be individual cases where people deviate from the Standards of Care.
Q Focusing on the WPATH Standards of Care 8, are the recommendations for the treatment of gender dysphoria the same for prepubertal children as they are for adolescents and adults?
A No.
MR. CANTRELL: If I could just ask for a continuing

objection to the form of the question, the leading questions.

THE COURT: You can have a continuing objection, and it's overruled at this time. Go ahead, Ms. Cooper.

BY MS. COOPER:

Q What treatments are recommended for prepubertal children with gender dysphoria in the WPATH Standards of Care 8?

A No medical treatment is recommended prepubertally. What is recommended is psychotherapy, family support, support with school and peers, mental health and psychosocial support, but no medical treatment.

Q What treatments may be recommended for adolescents with gender dysphoria in the WPATH Standards of Care 8?

A Starting beginning with the start of puberty, puberty blockers which are medicines that can suppress or postpone puberty. Starting with once people see the very beginnings of puberty, puberty blockers can be a treatment. Later in adolescents, gender-affirming hormones can be a treatment, sometimes there can be surgical interventions. Overwhelmingly when there are surgical interventions, it is chest surgery for trans male youth. The Standards of Care 7 had recommended against genital surgery for adolescents.

Standards of Care 8 still recommends against phalloplasty under 18; for vaginoplasty under 17. Standards of Care 7 says it's possible that that can be offered but should be offered only with great caution with a thorough assessment of cognitive

maturity and which includes even though it's the parents who consent and the adolescent who assent, who agrees, that the adolescent has an understanding of the long-term consequences and the possibilities of thinking differently in the future. And so in Standards of Care 8, there isn't an exact age requirement for vaginoplasty, but it's clear that if it's done, it should be done with great caution. And, of course, for any irreversible treatment, the other requirements that Standards of Care 8 say which is that the youth has had gender diversity for years and they have a diagnosis in the United States that's the gender dysphoria diagnosis which includes six months of -- a minimum of six months of symptoms that are causing clinically significant distress or social or occupational impairment.

Q How do the medical interventions you mentioned alleviate gender dysphoria starting with pubertal suppression? How does that work to alleviate gender dysphoria?

A Pubertal suppression -- some transgender youth have a significant amount of dysphoria sometimes increasing with the changes of puberty like breast growth, for example, or someone assigned male at birth getting taller as examples. And so puberty blockers delay that progression of puberty as long as they continue to be given.

Q And how do hormone therapy and surgeries help alleviate gender dysphoria?

A So hormones and surgeries help align the body to be in

better congruence with someone's gender identity and that often can provide great relief.

Q Now, you mentioned that there was -- I believe that you said there was a minimum age recommendation for any surgeries or genital surgeries, genital surgeries in the Standards of Care 7. Is that right?

A Yes.

Q Do you have an understanding of why there's no longer a recommended age threshold of 18 I believe you said for vaginoplasty in Standards of Care 8?

A First I want to kind of clarify that I was chapter lead for the mental health chapter that focused on mental health in adults, so I wasn't privy to the conversations directly within the committee that wrote the adolescent chapter. But my understanding was that there wasn't sufficient data really to set a precise age. And so, instead, the recommendation was for a very kind of cautious, thorough evaluation of that individual's maturity.

Q We've been talking about the WPATH Standards of Care. Do the Endocrine Society Guidelines also recommend or make any recommendations concerning the treatments you described, puberty blockers and hormone therapy?

A Yes.

Q And that includes relating to or does that include relating to adolescents?

A Yes.
Q Does the Endocrine Society Guideline make any recommendations regarding surgical treatment for adolescents?
A Yes.
Q What do they say?
A So they don't give a precise age for chest surgery for trans masculine youth which again is the great bulk of surgeries that happen in adolescents. For genital surgery, they recommend that the person be of the age of majority.
Q Switching gears, under the WPATH Standards of Care and Endocrine Society Guideline, how can mental health professionals help patients who come to them because they have distress about their gender?
A So mental health providers can both provide general mental health care that they provide for anyone coming in in distress. They also have a role in helping the individual patient explore their identity and what path they might want to take with that. Without putting any preconceptions, for example, Standards of Care 8 says specifically that there should not be a predetermined -- the healthcare provider should not be giving a predetermined kind of outcome but rather allowing the person kind of the space to explore their gender identity. And then there's also a role if there are medical or surgical interventions in terms of doing an assessment for those procedures.

Q I'd like to show you -- have the screen in front of you there, a portion of the Standards of Care 8, it's statement 6.2 of the adolescent chapter, and I'm going to read statement 6.2. "We recommend healthcare professionals working with gender diverse adolescents facilitate the exploration and expression of gender openly and respectfully so that no one particular identity is favored."

Is that the portion you were referring to?

A Yes.

Q Is this consistent with how care is provided in your practice and by other clinicians you're familiar with?

A Yes. Well, before Standards of Care 8 when I give my talks and trainings to mental health professionals, I've always had a slide that kind of graphically kind of provides that advice.

MR. CANTRELL: Your Honor, could we have a paper copy of this document?

THE COURT: That's a great question.

MS. COOPER: We could provide that.

THE COURT: I was just looking for one myself.

MS. COOPER: Is it okay if I continue?

THE COURT: I need one too. Just wait so I can follow along.

BY MS. COOPER:

Q Dr. Karasic, are you familiar with the term

"gender-affirming therapy"?
A Yes.
Q What does that mean in your field?
A Gender-affirming therapy is therapy along the lines of the statement that the therapist should facilitate that in this case they say the exploration and expression of gender openly and respectfully but with no one particular identity favored, but rather giving space to the client.
Q Some of the State's experts say that clinicians who provide gender-affirming care actively encourage patients to pursue a transgender identity. Do you have a response to that?
MR. CANTRELL: Your Honor, I just object to the characterization of the State's experts.
THE COURT: How do they characterize it?
MR. CANTRELL: Your Honor, the State's experts have testified that --
THE COURT: Essentially I think she's saying that your experts are saying that the medical experts on the plaintiffs' side are encouraging this transgender journey or whatever. Is that not fair?
MR. CANTRELL: I do not believe the State's experts have testified concerning specifically the plaintiffs' experts. But they have testified generally that there are instances and occasions in which young people are moved --
THE COURT: Are your experts going to say in any way

that the people on the other side encouraged this in any way? Because that's what I'm hearing Ms. Cooper say, that instead of taking a middle road and try to explore where this is going, they're trying to push these people in a particular direction, and if your experts aren't saying that in any way whether it's these plaintiffs or otherwise, I see your point, but I need to know that now so I can allow this witness to either testify in response to that or if you're saying they do indeed take a middle road, then that's another question.

Do you anticipate your experts testifying that clinicians encourage transgender treatment or let the patients and the parents kind of guide their way through there at least as to this page that we're on?

MR. CANTRELL: One moment, Your Honor. We'll allow our experts to testify --

THE COURT: So you withdraw your objection?

MR. CANTRELL: Yes, Your Honor.

THE COURT: Go ahead, Ms. Cooper.

MS. COOPER: May I repeat the question?

THE COURT: Yes.

BY MS. COOPER:

Q Some of the State's experts say that clinicians who provide gender-affirming care actively encourage patients to pursue a transgender identity. Do you have a response to that?

A Sure. So speaking of myself and the people -- my

colleagues, people I train, we're mental health professionals, we're licensed professionals and, you know, through our training and years of experience, we have a certain way of practicing and for patients, whether they're transgender or not, putting on some external agenda to a patient is not a good practice. And certainly as the statement in the Standards of Care says, that's not our role in working with patients. It's not our role to tell them who they should be.

Q Under the WPATH Standards of Care 8 and Endocrine Society Guideline, are medical interventions appropriate for all adolescents who have gender dysphoria?

A No.

Q Do the WPATH Standards of Care have any recommendations regarding assessments of adolescent patients before the provision of gender-affirming medical care?

A Yes. The Standards of Care in the adolescent chapter recommend that comprehensive bio-psychosocial assessment which includes an assessment of the cognitive maturity of the youth in making decisions and being able to kind of have an understanding of future consequences, understanding of impact on fertility, for example. Even though it's the parents who consent for a minor, the minor has to have the capacity to assent, to agree, with the consent that the parents are providing.

Q I'd like to show you statement 6.3 of Chapter 6 in the

WPATH Standards of Care. Do you have that up in front of you, Dr. Karasic?

A Yes.

Q I'm going to read the statement. It says "We recommend healthcare professionals working with gender diverse adolescents undertake a comprehensive bio-psychosocial assessment of adolescents who present with gender identity related concerns and seek medical slash surgical transition related care, and that this be accomplished in a collaborative and supportive manner."

Is this the Standards of Care 8 recommendation you were referring to?

A Yes.

Q And does that -- does the Standards of Care 8 specify any details of what should be included in that psychosocial assessment?

A Yes. Later on, they detail the aspects of a comprehensive bio-psychosocial assessment.

Q Can you tell us the details they describe?

A Yes. Broadly, they discuss taking a thorough history of the person's gender identity and the stability of the identity over time. They include an assessment of other conditions that could affect the presentation like a co-occurring psychiatric disorder, for example, and they talk about the capacity of the adolescent to participate in care, to be adherent to the care

that's provided, and having the cognitive majority to understand the consent.

Q Under Standards of Care 8, must healthcare providers make any determinations about whether treatment is indicated before treatment would be provided?

A Yes. Well, of course, for any treatment that's provided by health professionals, somebody is making an assessment that the risks, benefits, alternatives have been considered and that the benefits outweigh the risks, otherwise you wouldn't be offering the treatment. With Standards of Care 8, you do have a health professional making this kind of broader assessment and then the health professional who's providing the care is -- if it's someone else, it's also providing information to the parents and the youth about risks, benefits, and alternatives in order for informed consent to be given by the parents and assent to be given by the minor.

THE COURT: Ms. Cooper, is statement 6.2 and 3 and to some extent 4 that you've handed me off of version 8 of the Standard of Care protocols that we've been talking about, I'm trying to figure out which version of the Standards of Care that the document you've given me comes out of --

BY MS. COOPER:

Q These are all Standards of Care 8, the adolescent chapter. I'd like to show another statement, statement 6.9 from the adolescent chapter. And I'll read that statement,

6.9. "We recommend healthcare professionals involve relevant disciplines including mental health and medical professionals to reach a decision about whether puberty suppression, hormone initiation, or gender-related surgery for gender diverse and transgender adolescents are appropriate and remain indicated throughout the course of treatment until the transition is made to adult care."

Is that a recommendation in SOC 8?

A Yes.

Q Does SOC 8 recognize or talk about the co-occurrence of other conditions in patients with gender dysphoria?

A Yes.

Q Are there particular comorbidities that are common among people with gender dysphoria including adolescents?

MR. CANTRELL: Your Honor, again, I'll ask for a continuing objection to the form of the leading question.

THE COURT: Mr. Cantrell, what's leading about that? What about that question suggests an answer?

MR. CANTRELL: It calls for a yes or no response.

THE COURT: Okay, a yes or no -- a question that asks for a yes or no response is not leading in my opinion. "Isn't it true that", that kind of yes or no question would. Asking them "Is there something" does not. So I've given you your continuing objection, but please save them for when you really have a leading question to deal with. Overruled.

THE WITNESS: I would say on the previous question when you were reading the 6.9, in terms of our practice, it's not just that we make a recommendation, we're involved with continuing care so there's a continuing assessment of that this care is appropriate as weeks or months or years go by. It's not a one time -- usually not a one-time intervention by health professionals.

BY MS. COOPER:

Q And going back to the comorbidities. Can you say which comorbidities are common among patients with gender dysphoria including adolescents?

A Sure. So depression, anxiety disorders, suicidality. The chapter mentions increased co-occurrence of autism spectrum disorder, you know, among the disorders that are present in higher rates.

Q Do you have an understanding of why these co-occurring mental health issues like anxiety, depression, and suicidality are common among adolescents with gender dysphoria?

A Yes, I think it's both the reaction to the dysphoria that the person is in a lot of, can be in a lot of distress about their body, about the gender role they're expected to be in, and then there's also what's sometimes called minority stress, the discrimination that transgender people might suffer even from their own family or from school or peers as well as society at large.

Q Is there any discussion in WPATH Standards of Care 8 about autism spectrum disorder among patients with gender dysphoria?
A Yes. As I just testified, the adolescent chapter does talk about autism spectrum disorder.
Q Are there any recommendations about how approach to treatment may be different for patients with autism spectrum disorder?
A Yes. They reference, I believe, a paper that I was a coauthor on which was kind of a group recommendation that came out a few years ago on recommendations for adolescents with autism spectrum disorder, and that does include spending more time with the evaluation, understanding that there may be differences in thinking or communication by the person with autism spectrum disorder and taking that into account and making the evaluation.
Q Do the WPATH Standards of Care 8 say anything about what should be done in the event a patient, an adolescent patient has other psychiatric issues that have been identified?
A Yes, the Standards of Care 8 say that those in the adolescent chapter says that those should be addressed.
Q Some of the State's experts have said that gender-affirming mental health providers chalk up to gender dysphoria any issues the patient is experiencing and ignore other mental health or family or social issues. Do you have a

response to that?
A Yes, it's simply not true. The work I do as a psychiatrist is not just addressing a patient's gender dysphoria but treating depression, anxiety, working with families, so that doesn't ring true.
Q That's your experience. Do you have a sense of how others who you're familiar with in your field approach this?
A I work with a lot of therapists in California and so I have an understanding of how they work, and then I do a lot of teaching and training so I have an understanding of the practice of other providers just through my personal experience.
Q Are you aware of any providers who chalk anything up to gender dysphoria and ignore other mental health issues?
A No. Just to say the people that -- certainly working with and training, they're licensed mental health professionals and you have to look at patients globally and all of their issues, I don't think people leave behind, you know, all of their training on everything else just because the person sitting in the room happens to be transgender.
Q Some of the State's experts have also said that clinicians who support endocrine treatments for adolescents with general dysphoria oppose psychotherapy.
THE COURT: Hang on a second.
(Fire alarm sounds.)

(Recess from 10:21 AM until 10:39 AM.)
BY MS. COOPER:
Q Dr. Karasic, some of the State's experts have said that those who support endocrine treatments for adolescents with gender dysphoria oppose psychotherapy. Do you have a response to that?
A That's not true.
Q Would that be consistent with the Endocrine Society and WPATH Standards of Care guidelines?
A It would not be. Both talk about kind of the importance of mental health, and certainly most WPATH members are mental health professionals who do psychotherapy regularly.
Q Some of the State's experts say that clinicians are providing what they call, quote, rapid affirmation, closed quote, or hormone therapy on demand without first doing psychological assessments. Do you have a reaction to that?
A That has not been my experience with therapists that I work with and certainly goes against what we've been talking about with WPATH Standards of Care.
Q Do the WPATH Standards of Care 8 have anything to say about the stability of a patient's gender identity before initiating gender-affirming medical treatments for adolescents?
A Yes. Standards of Care 8 in the text says that the youth should have a history of gender diversity lasting years and then people have to meet diagnosis of gender dysphoria which is

six months of clinically significant distress or social or occupational impairment. And there is also discussion about stability of someone's both identity and the treatment that they're seeking.

Q When you say they say the stability should be for years, does it describe in any more detail how long?

A So my recollection is it says for years, which is a chunk of time certainly, and then that's -- of gender diversity. So preceding presumably necessarily and perhaps preceding their coming for help, but then they also have to meet the diagnostic criteria which has its own six-month criteria plus the social and occupational impairment or clinically significant distress. And there's other talk about kind of stability, so I think there is a lot in there that recommends that gender identity be long-standing and stable before treatment is given.

Q Now, the State's experts have pointed to comments made by Dr. Laura Edwards-Leeper and Dr. Erica Anderson, doctors who provide transgender healthcare, and statements from these doctors suggesting there needs to be more thorough psychological assessment prior to medical transition for adolescents. Have you seen those statements?

A Yes.

Q What's your reaction to those statements?

A Well, Dr. Laura Edwards-Leeper was one of the coauthors of the adolescent chapter that we've been reading and

discussing today as well as the child chapter, and so her views are very much part of the agreement of what Standards of Care are. And Dr. Anderson was president of the board of the United States Professional Association for Transgender Health American Chapter of WPATH. And I've worked with her because she was a psychologist with the USC Child and Adolescent Gender Center, and I've seen many of their patients as a psychiatrist, so we've worked together. So I know that they're careful clinicians. I think they're making comments about kind of maybe push-back within, but within really I think a fairly narrow confine of opinions of which, you know, are still variations on those opinions.

Q Do these doctors, Dr. Edwards-Leeper and Dr. Anderson take any position about whether pubertal suppression or hormone therapy should be banned for adolescents?

A Yes. They did an op ed in the Washington Post and the word that they used to describe Arkansas law and similar laws was disgust.

Q You've touched on informed consent, the topic of informed consent. Can you explain any discussion that's contained in the WPATH Standards of Care about the informed consent process prior to gender-affirming medical interventions for adolescents?

A So I think I may have referenced this already, but there is a careful assessment that should be made about the ability

of the adolescent to assent with the parents or guardian who are consenting, and that includes an assessment of cognitive maturity including an ability to think into the future about what possibilities might be possible for them in the future and making that understanding and also having the maturity to be able to participate in and adhere to the care process.

Q What about the parents, do the Standards of Care say anything about parents' consent in the process?

A Yes. Well, they discuss what is certainly in most U.S. states and in many places parents' consent and the minor under 18 assents and so the parents need to be part of the conversation in order to understand risks, benefits, and alternatives to be able to give informed consent.

Q You mentioned risks, benefits, and alternatives. Do the WPATH Standards of Care have any specifications of what families should be advised regarding potential risks of these treatments?

A Yes. The Standards of Care cautions with vaginoplasty that even though there's a little bit of evidence from people, from minors who have received vaginoplasty, that data is pretty sparse, and so parents should be advised that this is an area where we're still kind of gathering information so more broadly as part of giving informed consent, parents and the youth should be aware of the limits of our knowledge.

Q Are there any specifications on the impact of fertility

discussed in the WPATH Standards of Care 8?
A Yes, there is one of the statements on fertility in the detailed discussion about the fertility discussion and considerations for the adolescent and their parents.
Q And are you referring to as part of the informed consent process?
A It's part of the informed consent process. There's also, I believe, a statement that's specifically on fertility. So it's certainly something that is an important discussion that is not just a one-time discussion, but kind of an ongoing conversation with the adolescent and parents when gender-affirming medical care might be provided.
Q And in the WPATH Standards of Care discussion of information to be provided to families before initiating or before they might consent to treatment, is there any discussion of whether the minor may have a different feeling in the future about their gender identity?
A Yeah, that was something that I think I kind of brought out. The part of that cognitive maturity is having an awareness that there is that possibility that somebody might, with maturation, have a different idea of, you know, what it might mean in their life to be a biological parent.
Q And is there any discussion about whether they may have different ideas about their gender identity?
A Yes. And so that's certainly again part of the

conversation that, you know, just the possibility that there could be some evolution in identity when people are receiving treatments that are not fully reversible.

Q Does WPATH Standards of Care 8 recommend informing families about that?

A Yes.

Q Does Standards of Care 8 say anything about informing families about any information relating to the evidence base for this treatment or these treatments I should say?

A Yes. Well, yeah, also I think I kind of alluded to that, that as part of the informed consent process, the limits of our knowledge as well as what we know should be discussed with parents, and specifically that's mentioned with vaginoplasty because there aren't that many minors who have received vaginoplasty so we don't really know very much. We don't have that much information.

Q I'd like to show you a passage from SOC 8 on page S-46 which I believe has been provided to the Court and opposing counsel. Do we have that up? Great. If we could look at the top left corner, first paragraph on that page, the first full sentence. And I'll read. "Given the lifelong implications of medical treatment and the young age at which treatments may be started --

THE COURT: Can I stop you for a couple reasons? One for my record and one for my vision. I'm having trouble

locating the page that you're on.

MS. COOPER: If you look on the top left corner, it's page S-46.

THE COURT: I understand, but is that in chapter 3, chapter 6 -- I've been given a lot --

MS. COOPER: This is all part of chapter 6, the adolescent chapter.

MR. CANTRELL: Do we have a page number?

MS. COOPER: S-46.

THE COURT: If you'll look in the upper left-hand corner, it's really small on your screen. On your screen, it says 546, I believe. Does that help you locate it?

MR. CANTRELL: Yes, Your Honor.

BY MS. COOPER:

Q Thanks so much. I think we're all there.

If you can read along with me, Dr. Karasic. "Given the lifelong implications of medical treatment and the young age at which treatments may be started, adolescents, their parents, and care providers should be informed about the nature of the evidence base."

Is this what you were referring to?

A Yes.

Q Some of the State's experts assert that doctors who provide gender-affirming medical care do a perfunctory informed consent process that fails to inform families of the potential

risks of treatment. Do you have a response to that?
A So I can't speak to everyone's practice, I can only speak to my own practice, the many therapists in California that I work with, the people that I train and I have been involved in the training of thousands of providers. And then the Standards of Care 7 and 8 processes, and Standards of Care 8 recommends a comprehensive bio-psychosocial assessment for adolescents and that's also recommended in Standards of Care 7, and so that description doesn't ring true with my experience.
Q And just to clarify, I was referring to the assertion that there's a perfunctory informed consent process done by clinicians.
A Yeah. In terms of the informed consent process, you have the assessment that is done by a health professional, and in this chapter, it says that that generally is a mental health professional, and so you both have the assessment by the mental health professional where there is recommendation in terms of assessing ability for assent to consent and then there's also a second typically informed consent process if that is being done by a separate provider where that person is required as for any treatment to have an informed consent process with a patient.
Q You've been talking about the need to explore an adolescent's capacity or maturity and cognitive ability to understand. I want to show statement 6.2C that I believe has been provided. That's on page S-61, statement 6.12C. And I'll

read the passage. "The adolescent demonstrates the emotional and cognitive maturity required to --

THE COURT: Ms. Cooper, I'm at 6.12C, but I'm having trouble locating where you're starting to read.

MS. COOPER: The bold text at the very beginning under the heading statement 6.12C.

THE COURT: Go ahead. Thank you.

BY MS. COOPER:

Q It reads "The adolescent demonstrates the emotional and cognitive maturity required to provide informed consent slash assent for the treatment."

Is that the requirement you were referring to?

A Yes.

Q Is that a requirement prior to initiating hormone therapy for minors in the WPATH SOC?

A Yes.

Q Does the SOC 8 make any recommendations about how a clinician can assess an adolescent's emotional and cognitive maturity to make these decisions?

A Yes, it provides some detail that I think I kind of talked about a little bit before. There's an assessment in order to provide informed consent of their cognitive maturity. With that, there's an element really with abstract thinking that develops in adolescence where people are -- for the adolescents who assent, people are able to be forward-thinking

including things like impact on fertility or possibility that their treatment desires might change in the future and, of course, the parents are adults and they're assumed to have that cognitive maturity and they're the ones consenting.

Q So just to be clear, the WPATH Standards of Care 8 give the suggestions of how to make that assessment of the adolescent's cognitive and emotional maturity?

A Yes.

Q Now, you have talked a bit about the recommendations for treatment made by the WPATH -- in the WPATH Standards of Care and the Endocrine Society Guideline, and I asked you about some of the State's experts' assertion about clinicians who support or provide medical interventions to treat gender dysphoria. And just to summarize, I think we talked about that some of the State's experts assert that these clinicians actively encourage patients to be transgender, provide hormones to adolescents on demand without psychiatric assessments, ignore other mental health and family issues that could be causing the patient distress, oppose psychotherapy, and fail to inform patients and their families of the risks associated with treatment. Do you have a reaction to that all collectively?

A Yeah. Collectively that would be irresponsible care and it's not the experience that I have with the many clinicians I work with or in my own personal practice.

Q If there were a provider who was providing care in that

way, would that be consistent with the WPATH and Endocrine Society guidelines?
A No, it would be inconsistent.
Q Can you say that there's no clinician out there who might be providing care in that way?
A I can't speak to the practice of every clinician, I can only speak to my own practice and the practice of people that I'm aware of, but I am somebody who has probably met and discussed over 30 years the care of transgender people including transgender youth as much or more as anyone, so I think I have a sense of certainly quite a number of people and in particular certainly people who are involved in WPATH or American Psychiatric Association activities.
Q If there are individual clinicians who are practicing in the way some of the state's experts describe, would that affect your view about whether the state should ban gender-affirming medical treatments for minors?
A So just because there's bad or irresponsible providers out there doesn't mean that a particular kind of care is banned. If one were to think about that in terms of any other kind of care it would seem pretty ridiculous. If people need the care, you know, they should go to responsible providers. The fact that somebody -- that might be able to point to or claim the existence of an irresponsible or bad provider doesn't mean that other people don't need the care from responsible

providers.
Q And would that be unique to this area of medicine to possibly find providers who are providing care inappropriately?
A No. I mean, you just read the news, or I get report from the medical board of California periodically with all the people whose licenses have been suspended so there certainly are -- you know, there are like bad cardiologists but if I have chest pain, I still would like to be able to get care.
Q I'm going to switch gears now away from the standards and guidelines we talked about and I want to ask some questions about how the treatments that are banned by Act 626 impact patients with gender dysphoria. I want to start with your own clinical experience. I believe you testified that you have over 30 years of experience as a psychiatrist. Is that right?
A Yes.
Q And that you've seen thousands of patients with gender dysphoria?
A Yes.
Q Including, just to make sure I remembered right, hundreds of adolescents?
A Yes.
Q Have many of these patients received medical interventions to treat gender dysphoria?
A Yes, many of them have received medical treatment.
Q Would that include hormone therapy?

A Yes.
Q Would that include puberty blockers?
A Yes.
Q Would it include top surgery for trans masculine patients?
A Yes.
Q Have any of your adult patients had vaginoplasty?
A Yes.
Q Focusing on your adolescent patients who were treated with gender-affirming medical treatments, can you tell us how it has affected them?
A For many of the patients, they have had dramatic relief of symptoms, dramatic relief of gender dysphoria with treatment. Sometimes with that great relief of depression and anxiety, suicidality, thoughts of self-harm, and for many, the magnitude of the impact can be much greater than I might see in other parts of my practice, cisgender or transgender, in treating depression or panic disorder, for example. So I've been impressed by the magnitude of improvement that people can get with gender-affirming medical care.
Q You spoke earlier about how one of the consequences or effects of gender dysphoria that you've seen with patients is impact on their school or work functioning. Have you seen any impact of treatment in those areas?
A Yes. I've certainly had many adolescents who were unable

to attend school, were unable to really develop interpersonal relationships, who with gender-affirming care were able to return to school, were able to make friends, connect with people. And so along with the relief, the clinically significant distress, I've seen great improvement in many patients in terms of their functioning.

Q Now, you mentioned various benefits you've seen in patients. How common was it or is it to see these kinds of benefits in adolescent patients treated with medical interventions for gender dysphoria?

A I would say that almost all the patients I've had have had some improvement in some way or another with gender-affirming medical care, specifically with hormones or chest surgery for adolescents. The magnitude varies. Some people -- I have patients who still have depression or anxiety that needs to be treated separately. And then I've had some patients who really have dramatic improvements where, for example, treatment with an antidepressant has not really done very much for them.

Q And how do you know the benefits experienced by your patients isn't the result of therapy you're providing as opposed to the medical interventions?

A Well, there are kind of two sides of that. One is I have patients who benefit who are not in psychotherapy, although must of my adolescents that I see as a psychiatrist are also

seeing a therapist. But then I see the distress that people have had before they started treatment with gender-affirming medical care versus after treatment has been initiated, and then I've had patients for whom treatment has been halted where they've continued to get -- where gender-affirming medical care has been halted, but they've continued to get mental health care who have had a large increase in their symptoms.

Q So you've described a number of benefits experienced by your patients while you're treating them, but do you know how these patients do over the long term over the years?

A So I worked the last two, just over two years, I've been mostly in private practice, but for 29 years, I was employed by UCSF, and I was a psychiatrist in clinics providing care for transgender people. I was a psychiatrist for the Dimensions Clinic for trans youth from 2003 to 2020, so I have a number of patients I've seen for a number of years, and along with Dimensions, that clinic had a transgender life care program where even if people aged out of Dimensions, they could continue getting mental healthcare. So both adolescents and adults, I've had patients that I saw for many years.

And in my faculty practice which was kind of like a private practice while I was at UCSF and my current private practice, I've also had patients who have come in and out of treatment over many years or have consistently been in treatment over many years, so I think I have kind of a life

span approach just by kind of being so old and being in this field for so long.

Q When you say you've seen patients over many years, can you give us an idea of how many you're talking about?

A Yeah, I just had a patient kind of who had -- I had been treating for a really kind of chronic and persistent mental health, some mental health symptoms aside from the person's gender dysphoria and but because of that, they remained engaged in treatment and I started seeing that person in 2003 and they just notified me I think last week that they really feel they've kind of graduated and are just kind of going to have their primary care continue their medications. And that's an indication that was somebody for 19 years, but I've also had a number of patients where -- I have patients where I've seen them at age 19 and they've come back at age 32, for example, so I have both patients that over the course of those 30 years, I saw for many years and then I've also had patients that I saw and then they went away and they came back and I saw them again years later.

Q And the fact that these patients were either coming back to you again many years later or seeing you for long periods of time, is that necessarily because they were struggling with gender dysphoria?

A So some of them were struggling with gender dysphoria and were in different stages. I had a patient who had had

masculinizing chest surgery as a young adult, but then felt he couldn't come out to his father and many years ended up passing until the father died and then he felt he could start testosterone and then eventually had phalloplasty.

Q Are any of the patients you've seen over these many years for reasons unrelated to their gender dysphoria that you continued to see them?

A Yes. For example, I have transgender patients with ADHD and they're very stable, but they need refills on their ADHD medicine so I have people that have been pretty mentally stable, but I also -- they continue to need medication so I see them over long periods of time.

Q You mentioned your interactions with many other clinicians in the field given various professional activities you're engaged in. Is sharing clinical experience among these professionals part of what you do?

A Yes.

Q Do you have a sense from those other clinicians the kind of impact they're seeing on their patients when they get gender-affirming medical care? I'm specifically referring to adolescents.

A Yes. First of all, in addition to the other things I said, starting in the late '90s, I joined a peer supervision group of therapists working with transgender people and I continued with meeting monthly with that same group of

therapists from probably 1999 or late '90s until 2016 or 2017 when the group finally dissolved. And so I had regular meetings there with a group of therapists and who were sharing their clinical experience. But I've also had, for example, at Dimensions over periods of time or at Alliance Health Projects supervise therapists who were providing care for transgender patients.

Q What have you learned from those interactions with these other clinicians about the impact of these treatments on adolescent patients with gender dysphoria?

A It's very clear that many patients get great benefit from gender-affirming medical care.

Q Switching gears from clinical practice, I want to ask a few questions about research. Are you familiar with any research assessing the effectiveness of hormone therapy or pubertal suppression for the treatment of gender dysphoria in adolescents?

A Yes.

Q Another witness for Plaintiffs, expert witness will be focusing on the details of the scientific research but I just want to ask you two or three questions about it. First what is your understanding of the types of studies that have been done on the effectiveness of gender-affirming medical interventions for gender dysphoria in adolescents, and could you summarize what they have found?

A Sure. So many of the studies are observational studies over time. It isn't practical or ethical to do randomized controlled trials of providing gender-affirming medical care or not providing it to someone. There aren't randomized controlled clinical trials for gender-affirming medical care but there are observational studies, those are longitudinal. There are those that are cross-sectional, looking at people over kind of moment of time. There are also the observational ones where they follow people who are patients in a clinic over time. And then there are analyses of large databases of questionnaires that are provided to trans people. There are also some large population-based surveys that are primarily to get an idea of kind of how many trans people there are, what share of the population has transgender identity.

Q Focusing on the studies that looked at the evaluation of the medical interventions, how do the findings of those studies -- well, strike that. I may ask it differently. Can you summarize the conclusions or findings of those studies?

A Sure. There are a number of studies that have shown improvement in mental health, decreases in depression or anxiety scores, decreases in suicidal ideation with gender-affirming medical care.

Q Are there any limitations on the research we have in this area?

A Yeah, so there's the absence of randomized clinical

trials. Most of the observational studies are pretty small. There are some larger ones that we're just getting more data from. There's a multicenter study that NIH is funding that just released some data on around 315 young people or adolescents in the case of the study I saw reported at the recent WPATH conference in Montreal. So we're getting more. Some of the other studies are smaller than that.

And the size -- certainly not being randomized controlled trials and some of the series are small are limitations where one wouldn't make a decision to treat based on any one study, but you look collectively at the studies along with the clinical experience I have and all the people that I collaborate with and all of that, I think, supports the idea of benefits from gender-affirming medical care.

Q Does the Standards of Care 8 discuss the limitations of the research?

A Yes, I think maybe -- trying to think if we actually even had a talk about that a bit, but they do say in that as part of the informed consent process, there should be some discussion about that, the limitations of what we know.

Q I'd like to show pages S-45 to 46 and Standards of Care 8 adolescent chapter.

THE COURT: When you say S-45, are you talking about --

MS. COOPER: It's up on the screen and it's been

provided in hard copy.

THE COURT: My problem is I can barely read it on my screen and so I was looking and trying to find printed copies and S-45 isn't --

MS. COOPER: You're not finding that in your collection? Up at the top corner, it looks like a 5. It says S-45, top right corner.

THE COURT: Okay. I see. I thought that was a 5.

MS. COOPER: I just want to read a passage that begins on S-45 and carries over to S-46.

THE COURT: I'm on the page.

BY MS. COOPER:

Q Dr. Karasic, are you on the page S-45?

A S-45.

Q If you scroll down to the very bottom with the heading Research Evidence of Gender-affirming Medical Treatment for Transgender Adolescents, I will read the first sentence below that and continue over to the next page. It says "A key challenge in adolescent transgender care is the quality of evidence evaluating the effectiveness of medically necessary gender-affirming medical and surgical treatments, paren GAMSTS, closed parens, see medically necessary statement in the global chapter statement 2.1, closed parens, over time.

Given the lifelong implications of medical treatment and the young age at which treatments may be started, adolescents,

their parents, and care providers should be informed about the nature of the evidence base."

Again, so is this part of the guidance and recommendations in Standards of Care 8 in the adolescents chapter?

A Yes.

Q Does that mean we don't know if treatment is effective?

A No, it just means that we need to be cognizant of the limits of our knowledge and that we don't have randomized clinical trials and we're unlikely to get them and so we develop our kind of collective knowledge base based on the evidence that we have in the trials that we do have, the studies that we do have along with kind of the collective clinical experience of experts and people in the field.

Q I'm going to move to a new topic. Some of the State's expert witnesses oppose all medical interventions for adolescents with gender dysphoria, gender-affirming medical interventions because of a risk they say that they will come to identify as their natal sex and regret irreversible changes to their bodies. So I want to ask you some questions about that topic. First, are you familiar with the term "detransition"?

A Yes. It's certainly something discussed in our field. I helped organize at the USPATH conference in 2017 a panel of therapists who also had detransitioned and we had lively discussion and so it's something that we talk about and the

Standards of Care talks about particularly in the adolescent chapter.

Q Does that term have a particular meaning in your field, detransition?

A It can be used differently, I think, by different people. But I take it to mean someone who has medically or socially transitioned to a gender other than the sex assigned at birth and then has transitioned again medically or socially generally either to the sex assigned at birth or to a different gender identity like a nonbinary gender identity.

Q In your clinical experience with more than I think you said thousands of patients with gender dysphoria, have any of your patients who have medically transitioned detransitioned in the sense of coming to identify as the sex they were assigned at birth?

A None of my patients that I've taken care of personally have detransitioned in that manner of saying that they again identify with the sex assigned at birth.

Q Have you had patients who halted their medical transition for other reasons?

A Yes.

Q Can you give an example or two?

A Sure. So I had a patient who was nonbinary identified who had dysphoria about their high-pitched voice and they started on testosterone and they had a lowering of voice, but

they were nonbinary identified and they didn't want other changes like increased body hair, for example, and so they stopped testosterone and they were -- in that case, the person was satisfied with the changes that they had had. I also had people who, for family or social reasons, have stopped care for -- have stopped hormones for a period of time and then resumed them at some other period of time.

Q Are there ever people who halt for financial reasons?

A Yes. So fortunately we have a pretty good safety net for that in San Francisco, but I have had -- because in other parts of my practice, I take care of people from elsewhere as well, but I have had people who have lost insurance and couldn't get back to their doctor for a refill on medications.

Q But just to be clear, of your patients who stopped or paused medical transition, in none of those cases it was because they came to identify as their sex assigned at birth?

A Correct.

Q Now, some of the State's experts assert that there is a rise in detransition, again in the sense of using that word to mean identifying, coming to identify with one's natal sex, and a rise in detransition and regret about care among adolescents who are treated with gender-affirming medical care, is there any evidence to support this rise in detransition and regret among adolescents?

A So there certainly has been an increase in people

transitioning, and so, you know, the possibility even if the percentage remains very low that there could be more detransitioners, but when I look at my clinical practice and I work with the UCF Child and Adolescent Gender Center which includes pediatric endocrinologists, pediatricians, mental health providers, we're not seeing a big increase in detransitioners, and other data from my area from northern California from -- there was a Kaiser Permanente study on adolescents, trans male adolescents who had gender-affirming chest surgery from 2013 to 2020, I believe, so pretty recent group of folks and they identified regret, and presumably detransition related in two out of over 200. So it hasn't been my experience that there is this, you know, incredible explosion of detransitioners that I sometimes heard characterized in the media.

Q Is there any research evidence demonstrating a rise in detransitioners?

A The reports of detransitioners that I'm aware of are interviewing detransitioners and having -- for example, asking them why they detransitioned, there isn't -- so there isn't, for example, for -- we really didn't get a good idea of the number of transgender people until it was asked --

Q Can I go back? I think maybe my question wasn't clear. Is there any research documenting a rise in rates of detransition?

A No. Just to explain the answer. To actually determine the rates of detransition, you can either do something like, you know, observational studies like the Kaiser did in my area or you can ask a population-based survey which is just in recent years how we learn even how many transgender people there might be in the population, and nothing like that has been determined for detransitioners that any information that's out there has been interviewing detransitioners from kind of a wide net of the internet.
Q So not quantifying but just telling stories?
A I think they've been interested in like asking people why they detransitioned, for example.
Q Some of the State's experts have said detransition is being ignored by those in the field of providing gender-affirming medical care. Do you have a response to that?
A Yes. So I don't believe that it's being ignored. Detransition has -- well, first of all, I was involved in 2017 in putting together a session at USPATH on detransition that was well attended. There have been other sessions since then in other transgender health conferences that I participated in. And WPATH has done all-day training that people can do on line on how to better care for people who detransition, and then Standards of Care 8 talks about a detransition, so I don't think it's true that it's been ignored.
Q Can you please say what Standards of Care 8 says about

detransition?
A Yeah. I mean, SOC 8 says some people detransition and that there's still a paucity of information on detransition or studies related to it. But people who detransition deserve the same thoughtful kind of care that people who are transitioning initially get.
Q Does --
A Like I think it talks about somewhere in detransition, in Standards of Care 8 they talk about again interdisciplinary team or multidisciplinary approach to working with detransitioners.
Q Do they indicate that it's common for people to detransition in the Standards of Care 8?
A No, the Standards of Care 8 says that the phenomenon is rare.
Q I'm sorry, is?
A Rare.
Q Do you agree there are some people who after undergoing gender-affirming medical care might come to identify with their sex assigned at birth or regret treatment?
A Yes. Well, I organized -- helped organize a session that had three or four therapists, people who are either therapists or therapists in training themselves who also had detransitioned, so it's clear that those folks exist. It's an open question of how many of them are out there.

Q Given that there are some people who may ultimately come to identify with their assigned sex and possibly regret receiving treatment, does that give you pause about supporting gender-affirming medical interventions in adolescents?
A No. You have to realize if -- I mean, I'm a medical doctor and any treatment that people get has some potential for them not to fully appreciate the outcome, and regret seems quite uncommon and maybe less common than other areas of healthcare. And so I think where there's importance is that when one is giving informed consent that one include as part of the discussion that, you know, there is a possibility or there are some people who have detransitioned or whose gender identity or treatment goals have varied over time and that that is, you know, a risk that you could take particular treatment that you might later not agree that you should have taken but that that is an uncommon phenomenon.
Q Some of the State's experts have asserted that teenagers are adopting a trans identity because of social influence of peers and social media, what they have called social contagion. And then they say these youth will undergo irreversible medical treatments they will come to regret. I have a few questions about that topic. First, the experts from the State, some of them point to a rise in recent years of the number of adolescents who are referred to gender clinics and suggest that's evidence that social contagion is at play. First of

all, has there been a rise in referrals to gender clinics in recent years?

A Yes.

Q Is there an understanding of the reason for this rise?

A Yes. Certainly in the United States, one reason is that there generally wasn't insurance coverage for the care until in California it was 2013 when that became required. And so when you have funding and you have programs, people who might have gotten care from a private practitioner or otherwise not be measured, now you have kind of insurance information that they've received care for gender dysphoria and they're being counted in centers that are providing care so we have a better sense of the people who are actually getting care, but then also if care is not available, people don't have anywhere to go if they need care.

I remember as someone who was providing care early probably in the late '90s, I got a call from a man in Florida who was apparently well off and had a private jet and said that he could -- he had this transgender child who was in extreme distress and he didn't know who he could safely take the child to and he could fly anywhere. And in that case, I said to him, well, you know, you could fly long distances, but I did know a child psychiatrist in Atlanta and I recommended that he go there, but it just kind of speaks to if you didn't have a private jet and you weren't able to figure out to call me, how

would people, before there were clinics established, how would they even get care if they were having the symptoms.

So that's part of it. I think certainly when there's more awareness in society of the possibility of getting care, the people who are, you know, suffering from gender dysphoria might be more likely to receive care.

Q Just to be clear, were you suggesting there were fewer clinics available to provide care in the past than there are now?

A Yes.

Q Does the Standards of Care 8 acknowledge the increase in referrals in recent years?

A Yes.

Q I want to read you a statement made by one of the State's experts, Dr. Hruz, in I believe it was paragraph 76 of his report. I'm not going to put it up, but it's in the report of your expert, it's just a sentence. It has been reported that in --

MR. CANTRELL: Your Honor, I would just ask if you could give me a reference and page number.

MS. COOPER: Yeah, it's Dr. Hruz's report, paragraph 76.

MR. CANTRELL: You said Hruz?

MS. COOPER: Hruz.

MR. CANTRELL: Was there a paragraph number?

MS. COOPER: 76.
MR. CANTRELL: I believe we've pulled up the copy.
MS. COOPER: If you can look where it says it has been reported that in 2018.
MR. CANTRELL: I see it.
MS. COOPER: Thank you. It says "It has been reported that in 2018, 2 percent, paren, two in 100, closed paren, of high school students identified on surveys as transgender, this is 200 times greater response, a 20,000 percent increase over reports during past decades which showed a rate of only .01 percent, one in 10,000 people."
Do you remember reading that in Dr. Hruz's report?
A Yes.
Q Is this statement accurate that there's been a 20,000 percent increase in trans-identified high school students in recent years?
A No. So I think he's comparing, I think, the numbers in the DSM that came -- that were in adults and came from the Netherlands in 1990 where less than one in 10,000 people in the Netherlands adults had attended the centralized gender clinic in Amsterdam so that was data derived before there were surveys and back in 1990 where they took how many people had been seen by this gender clinic in The Netherlands basically divided by the population of the Netherlands, and to say that there was between 1 and 11,000, 1 in 30,000 were transgender people who

had received a gender identity disorder diagnosis from this clinic. So that on the one hand is a very low number. We did not have surveys until the late 2000s.

No one -- I don't know whether no one thought to do it or no one was able to do it where they started asking gender identity on these large population-based surveys in the United States and elsewhere. And that's how you figure out what share of the population are transgender. So the first ran in 2012, published in 2012, but it was in data from the late 2000s, and since then, there have been a number of reports based on asking a question on a large health survey that's done -- it's done -- the surveys are actually done in individual states but done in most or all states where they collect data on prevalence of various conditions. And when they started doing that, they found that .5 to .6 percent of adults, .7 percent of adolescents identified as transgender.

The higher number that gets closer to 2 percent is from the YRBS. There's a different survey that's done of high school students that in particular includes large urban high schools like the San Francisco Unified School District and the LA Unified School District. And they have a question of: Do you identify as transgender? And that's always shown higher numbers than this broad population survey. And then lastly, there have been some surveys where they've asked the question: Do you identify as transgender or something other than your sex

assigned at birth or are you unsure? And those are the possible choices. And there you get the highest number because you're asking the question differently.

So you're incorporating other people other than just transgender people. So the numbers really just depend on where you get them from, but it's a mistake to compare, you know, the fraction of the adults in the Netherlands who received a gender dysphoria diagnosis in their clinic in 1990 with a survey in San Francisco and LA and other places of high school youth in, you know, in 2017 or whatever years they've done those surveys.

Q Just to be clear, the Netherlands data from the 1990s is clinic participants who had gender identity disorder diagnosis, and the --

A And adults actually too.

Q And the higher number is people who identified as transgender on surveys, it was not clinic referral or clinic data --

A I'm sorry. Yeah, they were not people who had received a gender identity disorder diagnosis or later starting in 2013, it was a gender dysphoria diagnosis. So there were -- the surveys are not people who received a diagnosis, but someone who answers on the phone or to a written survey do you identify as transgender or do you identify as a, and then providing a list of options.

Q Is there data that indicates whether the number of people

who seek treatment for gender dysphoria is similar to or different than the number of people who identify as transgender on a survey?

A Yes. There have been a few publications on that and the fraction of people who seek care is under one in a thousand whereas the number of youth on one survey is 7 percent, others are up close to 2 percent depending on how you ask the question. So it's very different numbers, so it's clear that there are people who might answer that they are transgender or have another gender identity or unsure of their gender identity on a survey, but they're not people who have gone and received gender dysphoria diagnosis from a clinician.

Q The state's experts also talk about what they refer to as sex ratio changes in clinics. They say that in the past, there were more assigned males at birth being seen by gender clinics and now there's more assigned female patients being seen at clinics, and they point to that and say that supports their argument about social contagion being at play. So just a couple questions about this. Has there been a shift in the sex ratios in gender clinics over time?

A So a number of clinics have reported a shift toward more people assigned female at birth. The clinic that -- the Dimensions Clinic I worked at had long had a preponderance of people assigned female at birth, but other clinics had had a preponderance of people assigned male at birth, and some

clinics had reported a shift toward people assigned female at birth over time.

Q Does the Standards of Care 8 note this shift?

A Yes, it's noted in the adolescent chapter.

Q Is there an understanding of what accounts for this shift in gender ratios seen in some clinics?

A No. And there's still an active discussion. When I was just at the WPATH conference in Montreal and heard Thomas Steensma from the Dutch group reporting their data and they had reported both in youth and adults more people assigned female at birth, so it didn't seem in their setting to be just restricted to youth. And then in the questions, there was someone who was a leader of the Belgian gender dysphoria gender incongruence program who said that in their experience in Belgium that there may be similar numbers of assigned male and assigned female at birth, but more people -- there's a trend toward more assigned female people seeking care, and so when you look at care settings, you're seeing more people assigned female at birth.

Q Is there an understanding why in the past in decades past there were more assigned males at birth brought into gender clinics?

A Yes. If you look in the past, you see that there were -- some of the studies were really just of feminine boys and some of those studies from UCLA and from Toronto started recruiting

patients or including patients in their studies starting -- well, for UCLA I think it was 1960s and for Toronto I think it was the 1970s, and there was a time where the -- well, some of those were like UCLA was before there was even a GID of children diagnosis, but there was a time where those studies of the GID of children diagnosis reflected parents who were concerned that their feminine boys would grow up to be gay and so there was that whole parental concern and maybe clinical concern about feminine boys.

And I think meanwhile at the same time that tomboys, that people assigned female at birth who had masculine characteristics did not elicit that same degree of attention. And I think there maybe has been some societal change where feminine boys who were never transgender identified to begin with are maybe more societally accepted or accepted by families or at least less likely to be brought in for clinical care.

Q So the boys who were brought in by parents because they were feminine and their parents had concern they might grow up to be gay, is that something that affects the number of boys that you were seeing compared to girls in the past and how would that apply now?

A Yeah. So if you were looking at gender ratios, the very earliest studies only were about feminine boys. And but then over time, I think feminine boys are less likely to be brought in, and we're talking prepubescent people who are assigned male

at birth who where there is not an indication that they're transgender prepubertally, so they're sometimes described as feminine boys, that was the description in Richard Green's feminine boy study at UCLA which was the first longitudinal study to kind of look at this.

Q So do I understand correctly that the significant numbers of assigned males at birth that were brought in the past for concerns they might be gay, you don't see those boys brought in today like you did before?

A Right, you wouldn't see them. And more often, the people that you're -- now that there are places for providing medical care, you're seeing more of a preponderance of people who are seeking medical care and it appears more people assigned female at birth are seeking gender-affirming medical care than people assigned male at birth.

Q So is this shift in ratios partially about not just more girls but fewer boys because of that phenomenon you described of feminine boys being brought in in the past?

A Yes.

Q So some of the State's experts say that youth who identify as transgender have lots of transgender peers and consume a lot of social media featuring transgender people and this supports their social contagion theory. Can you respond to that or do you have a response to that?

A Sure. I think that that is mistaken perspective on what

is a common experience in my patients which is that as they grow to have an awareness of being transgender or having gender dysphoric symptoms, that they seek out peers who might have a shared experience and they seek out media to gain more information and to gain social support.

Q If there were adolescents who were asserting transgender identity because their friends or YouTubers they like are transgender, would those individuals be given the medical interventions at issue in this case?

A No. So we've been talking about the adolescent chapter and what the recommended practice is, and the adolescent chapter talks about people having gender diversity that's lasted for years. They talk about having long-standing symptoms and a diagnosis which in the U.S. is the DSM gender dysphoria diagnosis which has six months of clinically significant distress which is distress that's severe enough that you'd go to the doctor about it or social or occupational impairment.

So it's a very different thing than watching a YouTube video and having some idea that you might want to talk with peers or others about on social media about your gender identity. It's a very different thing than going to a clinician and meeting Standards of Care 8 criteria and DSM criteria for gender dysphoria and that there's an indication that that might be treated and that the family is on board to

support such treatment.
Q Some of the State's experts say that adolescents with gender dysphoria should not be provided medical interventions to treat gender dysphoria because many will outgrow it or, quote, desist in having a trans identity. Do you have a reaction to that?
A Yes. So I think that's based on a mistaken understanding of what we know about desistence. So first of all, there are these numbers, these very high numbers of desistence that came from these early studies that talked about at UCLA and in Toronto. And so in those studies of -- studies of feminine boys, you had populations that were recruited, in the case of UCLA's study, entirely before there was a GID diagnosis and in Toronto, some of them were before there was a GID diagnosis. And where descriptions, you know, include sub-syndromal people for the idea of diagnosis, but even though those who received a gender identity disorder diagnosis for children, the criteria then allowed for that diagnosis just based on strong cross-gender behavior without a transgender identity, and that was recognized as catching this larger population particularly of pre-gay feminine boys, and this was understood to be a concern by the very people involved in making the diagnoses.
And Ken Zucker who was leading efforts for both the GID of children and DSM-IV and then Ken Zucker along with Peggy Cohen-Kettenis who was in the Dutch group led the effort for

the gender dysphoria and childhood diagnosis for DSM-5, and they recognized that the criteria included too many people who did not have a transgender identity so they changed the criteria to add this requirement for this A1 criterion and had to be present to make the diagnosis. And that was a criterion for the center for transgender identity.

THE COURT: Ms. Cooper, I'm going to interrupt you before we get into another question. We're going to take a break for about an hour for lunch. We'll be back at 1:00. If y'all can discuss y'all's thoughts on how long we're going to go this evening and following evenings, it would be handy. You can step down, sir.

(Recess at 11:59 AM.)

REPORTER'S CERTIFICATE

I certify that the foregoing is a correct transcript of proceedings in the above-entitled matter.

/s/ Karen Dellinger, RDR, CRR, CCR

United States Court Reporter

Date: October 24, 2022

(Proceedings resumed at 1:02 p.m.)

THE COURT: Be seated, please.

MR. STRANGIO: We also wanted to discuss the scheduling order as well if --

THE COURT: Doesn't matter one way or another. I don't know that he's going to --

MR. STRANGIO: I think in principle for today, if it's okay with the Court, we have agreed to go until 8 p.m. or -- if that works on your end.

THE COURT: I'm going to have to discuss that with grounds maintenance, so to speak, with regard to the CSO's and what not and what that means for overtime, but I don't have a problem with that in principle.

MR. STRANGIO: From plaintiffs' perspective in the general scheduling of the trial, we are able to check the Court's availability, go from 8 to 8. We can finish --

THE COURT: You talking about starting at 8?

MR. STRANGIO: Starting at 8, going to 8. We can finish our case in chief Wednesday afternoon - the afternoon, early evening, which would then give defendants, understanding that their scheduling concerns, Thursday and Friday of this week. We're also available over the weekend and into the evenings next week and able to accommodate remote testimony to the extent that would

help with any of the scheduling concerns for defendants' witnesses.

THE COURT: If we're going 12 hours a day, I'm not going to extend my staff into the weekend and after hours next week. So we'll just have to, if we don't finish up, reconvene sometime in December.

MR. STRANGIO: If we are able to -- if we are able to get through the majority of the case this week on that schedule, would you have any availability in November if it was just a day or two left?

THE COURT: I don't know. I mean, I can't tell you I do now. What I generally call Mack truck is set for two weeks. If they end in eight, then I've got two days, but I'm not going to know that until day seven or eight. And that's a jury trial, and then I have to divine how long the deliberation is even if the lawyers are on track with what they think.

So if we're talking about flying people in, like Mr. Jacobs says, I can't give you a date certain until December because these are civil jury trials that build in an unknown for me that I can't control. I know that makes all us lawyers uncomfortable, but it's a situation that I absolutely can't control.

MR. STRANGIO: One other possibility, if we go regular business hours this week, would evenings next week

Be a possibility in order to --

THE COURT: I can't. I can't make that happen.

MR. STRANGIO: Understood.

THE COURT: I don't even know about the -- we don't necessarily have to be on the record for this.

(A discussion was held off the record.)

THE COURT: Go ahead.

MS. COOPER: Thank you, Your Honor.

BY MS. COOPER:

Q. Good afternoon, Dr. Karasic. When we left off before lunch, just to remind you where we were, I had asked a question. Specifically, I asked what -- that some of the state's experts say that adolescents with gender dysphoria should not be provided medical interventions as treatment because many will outgrow it or desist in having a trans identity.

I asked you your reaction and you -- please correct me if I'm not summarizing right. I'm trying to save the court time and from having you repeat your answers, but I understood you had said that the desistance literature that has the high desistance rate was referring to youth before there was a gender dysphoria diagnosis and that many of those youth did have -- have a trans identity.

Did I summarize that accurately?

A. That's correct.

Q. Thank you.

So I want to also ask you whether those desistance studies that showed high rates of desistance, whether -- at what age group did they look at patients?

A. So the desistance literature refers to prepubertal desistance. The data that we have even from the same group, that Dutch group that reported on prepubertal desistance showed very different information for people who -- adolescents who received not the gender identity disorder in childhood, but the child identity disorder of adult -- adolescents in adulthood diagnosis; in other words, those diagnoses after the onset of puberty, and desistance was very low.

Q. So in the desistance studies that showed the high rate, these were prepubertal children who desisted by adolescence. Is that what you said?

A. Who desisted before the onset of adolescence.

Q. And going back to your first point you made about the studies looking at youth prior to the current gender dysphoria diagnosis using an older diagnosis that did not required a transgender identity, just to be clear, I'm not sure you addressed this.

Under the current diagnosis of gender dysphoria in childhood, would all children who meet the diagnostic criteria have a gender identity that differs from their

assigned sex at birth?
A. So the current -- I'm sorry. You're talking about the gender dysphoria of children --
Q. Yes.
A. -- diagnosis.
So the current gender dysphoria of children diagnosis has a requirement for this A1 criterion which is a strong desire or insistence that they are the other sex.
Q. Thank you. Now, has there been any research looking at desistance rates of prepubertal children since the gender dysphoria diagnosis has been in place?
A. Since the gender dysphoria diagnosis has been in place?
Q. Yes.
A. Yes. The one study using a contemporary population was from Christina Olson and her group. They showed very low desistance rates in their particular population from starting -- they started following this group of kids before the onset of puberty, and they found that those who -- those who had socially transitioned prior to the onset of puberty and thus had a transgender identity prior to the onset of puberty, that it was very uncommon for them to desist with puberty.
Q. You talked about the early desistance literature that had the high rates. In the clinics that generated that

literature, how did they treat youths who had gender dysphoria that persisted after the onset of adolescence?

A. So in -- so I mentioned three different studies. One was very early on and was not treatment study, the one at UCLA recruiting feminine boys in the 1960s and 70s. The other two longitudinal studies reporting -- before the contemporary one that reported higher numbers of desistance were the Toronto and Amsterdam groups. And both of those groups, if gender dysphoria persisted into adolescence, if they had a gender identity of adolescence or gender dysphoria of adolescence and adulthood, after the onset of puberty, they were treated with puberty blockers and hormones.

So they recognized that there were pre-pubescent people who desisted, and yet for those who persisted, those who had gender dysphoria in adolescence, that they needed medical treatment -- that they might need medical treatment.

Q. You've been treating patients with gender dysphoria for over 30 years you said. Did you have adolescent patients in your care before there were gender-affirming medical treatments available to those patients?

A. Yes.

Q. Did those patients who were adolescents and not receiving blockers or hormone therapy tend to desist after

the onset of puberty?
A. No. I had -- before the start of using puberty blockers, I -- where I worked, adolescents sometimes were just treated. Hormones were started later in adolescence, skipping the puberty blocker part but still providing cross-sex hormones later in adolescence for gender dysphoria that was -- that was present, but I did take care of people who actually lacked treatment.
Q. Any of --
A. Of any treatment and also those who just got cross-sex hormones but never had the period with puberty blocker.
Q. The patients who had neither type of treatment, did they tend to persist after onset of puberty if they -- sorry. I guess let me ask again.

For your patients who received no blockers or hormone therapy, if they had gender dysphoria after the onset of pubertal, did they tend to desist?
A. No. They tended to -- those who had gender dysphoria after the onset of puberty, it tended to persist.
Q. The state's experts refer to watchful waiting as an alternative approach to treating adolescents with gender dysphoria.

Are you familiar with the concept of watchful waiting?

A. Yes.
Q. Who coined that term in this context?
A. That was the Dutch group. So the Dutch group had published data about desistance prepubertally, but they also published really the seminal studies on using puberty blockers. So the coin "watchful waiting" about what you did with prepubertal children where you weren't taking an active intervention, you weren't treating them medically, they didn't encourage social transition, although some of them did and -- but they just followed these kids. And if gender dysphoria persisted after Tanner stage 2, after the start of puberty, then they would treat. And that's when they refer to "watchful waiting," they talked about what they did with prepubertal children, not what they did in adolescence where they treated them medically.
Q. So is watchful waiting an approach recognized for treatment for adolescents with gender dysphoria?
A. No, not by people in the --
Q. In the field?
A. No. It's a prepubertal. It's one of the approaches when people discuss approaches prepubertally.
Q. Now, you mentioned Dr. Ken Zucker. Dr. Zucker is a clinician who the state's experts brought up a number of times as a supporter of watchful waiting.
Did Dr. Zucker's clinic use watchful waiting with

adolescents?

A. No. So Dr. Zucker really followed the Dutch model, and so he was not a supporter of early social transition for prepubertal kids. But when youth in his clinic continued to have gender dysphoria in adolescence, they got treatment with puberty blockers and hormones.

Q. Some of the state's experts assert that providing gender-affirming medical care to adolescents will cause them to persist in their gender identity; whereas, if you don't provide treatment, they say they would be more likely to desist.

Do you have a response to that?

A. Yeah. I mean, I don't agree with it, primarily because of my own clinical experience that -- that people who have gender dysphoria that persist into adolescence that is unlikely to desist even if people don't have access to treatment; for example, parents don't agree.

There is maybe little bit of data from Christina Olson's group of -- say, we're looking kind of the psychological state of pre-pubescent gender diverse children into adolescence and found that they could predict the ones that -- that would socially transition or have a transgender identity based on some psychological attributes that were more like those of children who were assigned the other sex at birth.

So there's a little bit of evidence, but I base my opinion primarily on my experience and experience of peers.

Q. Are you aware of any evidence that the treatment causes persistence?

A. No.

Q. Now, the state's experts point to studies showing that most adolescents who start on blockers, puberty blockers to treat gender dysphoria, ultimately go on to hormone therapy as opposed to just going off blockers. They say that shows that treatment causes persistence.

Do you have a reaction to that or response to that?

A. Yes. So in these studies, they carefully evaluated the youth who had longstanding gender diversity and had been followed over a period of time and -- and -- I mean, my belief and what they put forward, like the Dutch group, for example, puts forward is that those youth -- it wasn't that they persisted because of -- of the treatment they received, but that they received the treatment they did because they were persisting; that they were adolescents with, you know, firmly established transgender identity.

Q. Some of the state's experts have taken the position that gender dysphoria should be treated with psychotherapy alone and no medical interventions. Are there any psychotherapeutic treatments that are have been

demonstrated to be effective at alleviating gender dysphoria?

A. No.

Q. Some of the state's experts also suggest that gender dysphoria can be the result of dysfunctional family, abuse or other trauma, and if you get to the bottom of that, that will resolve the gender dysphoria.

Do you have a response to that?

A. Yes. I mean, I certainly see many youth who come from dysfunctional families, but there's no evidence that somehow getting to the root of their dysfunctional family will relieve their gender dysphoria.

Q. Have you had trans adolescent patients who have had no history of family abuse or trauma?

A. Yes. I have many patients who come from very healthy -- healthy, supportive families who are transgender. And certainly seems like Christina Olson's co-worker, for example, has a lot of kids who seem to come from healthy, supportive families.

Q. Is there an understanding of what causes someone to have a particular gender identity or to experience gender incongruence?

A. So there is some evidence of biological bases. If you have an identical twin who is trans, you're more likely to be trans yourself. There are certain hormonal

or hormone receptor conditions that affect the hormonal milieu in utero or afterwards that change the ratio of people who are transgender.

So there are some biological basis, but we really don't know. I mean, there are also identical twins where one is transgender and one isn't. So we really don't know the totality of why some people are trans or not.

Q. Some of the state's experts have asserted that gender dysphoria is a type of body dysmorphic disorder or body integrity identity disorder, and they thus suggest it should be treated with psychotherapy like those conditions.

Do you have a response to that?

A. Yes. So body dysmorphic disorder is -- is an entirely different disorder that's more like OCD than gender dysphoria. And body -- body identity integral disorder, however it -- however it's called, it's not a DSM or ICD diagnosis. It's an extremely rare disorder and comparisons are hard to make because it's something that's just very rare and there is no evidence that it's, you know -- that one should treat one the way one treats the other.

Q. To be clear, body integrity identity disorder is not a recognized DSM diagnosis, but is that the one that has to do with people feeling they shouldn't have limbs and

want to remove limbs?
A. Yes.
Q. I want to switch gears and talk about another argument we've heard from the state's experts. Some of them have asserted that WPATH and the Endocrine Society, as well as the other medical and mental health professional organization that support the guidelines of those two groups are supporting medical interventions for adolescents with gender dysphoria based on ideology as opposed to science.
What is your understanding of the basis or foundation of these organization's support for gender-affirming medical care for adolescents?
A. Sure. It's not only WPATH and the Endocrine Society which, first of all, WPATH's Standards of Care 8 was -- it's not an ideological document. They selected experts on transgender care from around the world and a lot of very experienced clinicians and academics who've, you know, published in the field were -- were part of that. You just have to look at the chapter that we were just talking about, the adolescence chapter, and, you know, some of the other chapters certainly as well, to see that there is a -- like, a serious effort to review, you know, the literature in its totality. I view it even, you know, so WPATH and Standards of Care 8 as really a serious

effort by clinicians and health academics to try to delineate kind of the best care for trans people.

And the Endocrine Society or endocrinologists who have experience working with trans people, and many of them are very well, if not all of them, are very well published academicians at various medical universities. And then you look at the other organizations that support gender-affirming care, like the American Academy of Pediatrics, the American Academy of Child and Adolescents Psychiatry, the American Psychological Association, American Psychiatric Association, the American Medical Association.

So to, essentially, label almost all the people who are actually providing care for trans people as ideologues to me just seems kind of, I don't know, silly or meaningless to try to throw that label at the people who are actually trying to care for trans people.

Q. Some of the state's experts point to the fact that WPATH's membership includes nonprofessional members of the community, and they say this shows that the standards of care are ideologically driven.

Do you have a reaction to that?

A. First of all, it's the World Professional Association for Transgender Health. So one has to be a professional to be a full member. There are a few -- there are a few

lawyers who are involved in health care who are members, but, overwhelmingly, they are licensed health clinicians.

Beyond that to be -- so you can be a supporting member, for example, if you support the organization. You don't have voting rights and you don't have to be a health professional. But the full members are supposed to be health professionals.

The Standards of Care though is not just something you could sign up for. It was an application process that was taken very seriously and the editors are all very distinguished leaders in the field and they picked people to -- to lead the chapters and then they worked with the chapter leads from the CDs that were submitted for people who wanted to be authors on the various chapters to participate. So there was a -- quite a serious effort to -- to put the kind of top experts in the field.

There were a few community representatives who were members, like maybe one parent of a trans child. There were a few people who maybe weren't, but, overwhelmingly, the members -- the people on Standards of Care 8 were -- were people who were publishing in trans health or had reputations for the clinical programs that they led in trans health. So you couldn't just sign up to be an author of WPATH Standards of Care.

Q. Another argument made by some of the state's experts

is that they say that WPATH advocates on behalf of its patient population and, therefore, that means it's an advocacy group and not a medical group.

Do you have a response to that?

A. So I belong to the American Psychiatric Association as well and -- and to my understanding, all of the large medical and mental health organizations do put out policy statements that they feel are relevant to the health of -- of the people that they serve, population they serve. So the American Psychiatric Association puts out policy papers about the care of given groups of individuals and what policies should be.

The American Psychiatric Association has, you know, come out against discrimination against transgender people and conversion therapy, those kind of -- so, you know, all kind of areas. That's what one of the aspects of what professional organizations do.

Q. So not limited to transgender health care?

A. Not limited to transgender health. There are policies statements on all kind of different populations and issues.

Q. Some of the state's experts argue that the medical and mental health professional groups are acting based on ideology and not science and the groups that -- let me ask that differently.

The state's experts that are making that argument that the groups are acting based on ideology and not science assert that in these organizations, dissenting views are censored.

Do you have a response to that?

A. So I don't think that's true. And I think of the two professional organizations that I'm involved in, WPATH and the American Psychiatric Association. And in each, certainly a wide variety of views -- spectrum of views have been presented over the many years I've been involved with each organization.

Q. You've mentioned -- you talk about Dr. Zucker before. Do I understand correctly he is someone whose views, at least in some ways, depart from the main stream views within WPATH?

A. In some ways, yes.

Q. And has Dr. Zucker presented his views about treatment of gender dysphoria at WPATH and other professional conferences in your field?

A. Yes. He's frequently presented at WPATH.

Q. Are you aware of a planned presentation at a WPATH-related conference by Dr. Zucker that was cancelled?

A. Yes. I was the --

Q. Sorry.

A. Yes. I was of the conference chair and the chair of

the scientific committee for the first USPATH, United States Professional Association for Transgender Health, conference, the American chapter of WPATH.

Q. Did WPATH or the USPATH I guess cancel Dr. Zucker's presentation because of its disagreement with Dr. Zucker's view?

A. No. Dr. Zucker had two scheduled presentations. One was on a panel with me, a panel presentation put together by a long time expert on intersex people. I know -- there was a panel presentation that was put together by an expert in -- working with intersex people whose name is Heino Meyer Bahlburg. H-e-i-n-o. Meyer is M-e-y-e-r. Bahlburg, B-a-h-l-b-u-r-g. I believe that's how it's spelled.

So Heino put together a panel, invited both Dr. Zucker and I to be on the panel together. I was the chair of the conference. I felt it was important to provide adverse views. I had invited Dr. Zucker to be on panels before when he was working on the DSM-IV and DSM-5 diagnoses for gender identity disorder and gender dysphoria. And we did our presentation. And Dr. Zucker presented his desistance data from his clinic, and -- but it turned out to be -- I think to raise some strong emotions.

There had been a BBC documentary just before the

conference where Dr. Zucker had compared transgender children to dogs saying, if your child says he's a dog, would you bring him dog food, or something like that. And there were some parents of transgender kids who were very upset and transgender folks and other people who were upset. And -- and I think maybe felt my being on panel or his just being at the conference was somehow endorsing what were maybe some increasing society anti-trans kind of statements and actions that had been happening around 2017. And so --

Q. Can I direct you? You mentioned that he presented at a panel. I was asking about a panel where his presentation was cancelled. Can explain what happened with the presentation that was cancelled?

A. Yes. So he had two presentations. He was supposed to present again the next day. And the president of WPATH had received something that she interpreted as a threat, which was that that presentation was not going to happen. I don't know who -- how that was communicated to her, but she felt that WPATH couldn't provide adequate security to have that session go on. And so that session that had Dr. Zucker and three other presenters, a panel with the four of them, that was cancelled.

Q. Has Dr. Zucker been invited to participate at WPATH or other professional conferences on gender dysphoria

since that incident?
A. Yes. So that year -- so WPATH presents one international conference every other year. And in the off years, there is a separate USPATH and EPATH, the European Professional Association for Transgender Health conference, each of which are put on by WPATH and -- for those chapters. And so the -- there was -- early in the year there was the WPATH -- the USPATH conference. Several months later in Belgrade, there was the EPATH conference, and Dr. Zucker presented at EPATH.
Q. Okay. I want to switch gears now and ask, given your decades of experience treating adolescents with gender dysphoria, in your expert opinion, how would it affect these patients if Act 626 were to take effect and these youths are unable to receive gender-affirming medical interventions in Arkansas?
A. Sure. I think that one can think about it in a couple of ways. One is that you have people -- for example, you have youth who are already on hormones and have already had social transition and have already adjusted to being on hormones. So taking that treatment away -- aside from taking away treatment from people who haven't received it yet, but taking away the treatment of people who are already on hormones is, from my experience, something that's likely to cause harm to the youth. And

you potentially can have people who at least medically are being forced to detransition because of a state law, not because -- not for any volitional reason. And, again, from my clinical experience from other circumstances, I believe that would cause harm to them.

Q. Can you describe the ways in which in your clinical experience it had caused harm to patients?

A. Yeah. So what -- I've had a number of patients who who've had to stop treatment because of various circumstances, most commonly family circumstances. In the case where --

Q. You've described that.

A. -- parents changed their mind. So, you know, there are different -- people have spouses. There are different family circumstances where people have had to not receive or stopped receiving treatment without -- even though they want to. And then there are --

Q. What is the impact when that happens on those patients?

A. So, yeah, those circumstances -- there are other circumstances as well. And I've seen people have to stop their treatment. And I've seen people experience great distress and sometimes suicidal or self-harm behavior around not having access to hormones or other gender-affirming care when they have had access.

Q. So what about patients who haven't started treatment but for whom it has been deemed medically indicated, how -- do you have concerns about how Act 626 would affect them?

A. Yes. So -- so remember that the people who are getting gender-affirming medical care are the people who clinicians have determined are having clinically -- by DSM criteria, at least six months of clinically significant distress or social or occupational impairments. By definition those folks are people who are really suffering because of gender dysphoria. And when a treatment team has decided that, with the adolescent and parents, that the best approach is to try to relieve that suffering with gender-affirming medical care, if -- you know, there's some factor that says, you know, no, you can't, even though, you know, that the experts feel that this is the best way to relieve that treatment [sic], that one would imagine that that would cause for suffering.

Q. And have you had experience with patients who have had to delay -- I think you talked earlier about patients had to delay care that they needed. What is the impact on those patients?

A. For the people for whom gender-affirming medical care is indicated, they can really have severe suffering. And I've -- so I've had patients who've self harmed, cut

breasts or genitals or patients who made suicide attempts. I've had patients who've reacted very badly to lack of access to care.

MS. COOPER: Thank you. I have no further questions.

MR. CANTRELL: Your Honor, could we have a very brief break before beginning cross?

THE COURT: How long?

MR. CANTRELL: I would say a restroom break.

THE COURT: Sure. Court will be in recess for ten minutes.

(A recess was taken at 1:45 p.m. Until 1:55 p.m.)

THE COURT: We're back on the record. Go ahead, Mr. Cantrell.

MR. CANTRELL: May I proceed?

THE COURT: I said go ahead. I mumbled though, but, yes, you may proceed.

MR. CANTRELL: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. CANTRELL:

Q. Dr. Karasic, good afternoon.

A. Good afternoon.

Q. My name is Michael Cantrell. We met before. I believe it was virtually.

A. Yes, in deposition.

Q. So I work for the Attorney General's office and I represent the defense in this case. Got some questions for you.

Would you agree that there are developmental factors beyond biology that influence whether a person experiences gender incongruence? Isn't that right?

A. What I would say is that the --

THE COURT: Let me interrupt you real quick.

(Off the record.)

THE COURT: Do you mind repeating your last question?

MR. CANTRELL: I will, Your Honor.

BY MR. CANTRELL:

Q. Dr. Karasic --

THE COURT: You may want to speak into your mic as well.

MR. CANTRELL: For sure.

THE COURT: The whole podium will come up if you would like.

BY MR. CANTRELL:

Q. Dr. Karasic, me re-ask my question.

You would agree that there are developmental factors beyond biology that influence whether a person experiences gender incongruence. Isn't that right?

A. The way I would say it is that the biological factors

that we know only partially account for people's gender identity, and so there are other factors that -- that we don't know and biological, developmental, and -- you know, that -- where we can't necessarily, you know, attribute it to any one thing. Maybe in the future we'll know more, but we don't.

Q. But you would agree that people -- as a psychiatrist, you would agree that people make sense of who they are within their own culture, correct?

A. People do make sense of who they are within their own culture, but there's also psychiatric symptoms that are present across cultures.

Q. You would agree that different cultures provide people with different social roles that they can identify with or not identify with. Isn't that right?

A. I would agree with that.

Q. And you would agree that social expectations concerning how, for example, a boy should behave or dress can play a role in whether a person experiences gender incongruence, correct?

A. So I would try to distinguish between a child's understanding of gender roles or gender expectations and then the physical -- the physical symptoms of gender dysphoria that -- the symptoms particularly around the body, the stressor on the body that an adolescent

experiences. And so there are -- there are both, you know, society -- societal or individual conceptions of gender and then there are the symptoms that we make diagnoses based upon.

Q. So those -- those societal understandings can play a role in whether a person experiences incongruence with their gender, correct?

MS. COOPER: Objection. Mischaracterizes testimony.

THE COURT: Were you going to repeat your objection?

MS. COOPER: Objection. Mischaracterizes the testimony.

THE COURT: Overruled. Answer the question if you can, Doctor.

THE WITNESS: Can you restate the question -- the question?

BY MR. CANTRELL:

Q. I believe I asked if those social expectations concerning social roles can play a role in whether a person experiences gender incongruence, correct?

A. So there can be aspects of one's gender dysphoria around expected social roles, but those -- the whole kind of syndrome of gender dysphoria to me lacks an easy explanation of a particular culture because I see it

across different cultures, different immigrant cultures, people from, you know, different religious, political backgrounds, et cetera.

Q. So you would agree that all of those different social factors can play a role in gender incongruence. Am I understanding you correctly?

A. I think I'm saying the opposite, that I see people from all kinds of backgrounds who have some symptoms in common. And so I would hesitate to attribute their gender incongruence to, let's say, the social expectations of their parents, for example.

Q. So can you -- you cannot provide a set list of, for example, gender identities, correct?

THE COURT: I'm not sure I even understand your question, Mr. Cantrell. A set list of gender identities?

MR. CANTRELL: Yes. So let me think about --

THE COURT: Just rephrase your question because, I mean -- I think he's enumerated some: Male, female, nonbinary. And I'm not sure where you go from there, but those are three that are a set list that we discussed already, if that's what you're asking. If that's not what you're asking, I need you to clarify.

BY MR. CANTRELL:

Q. Let me ask you this.

Dr. Karasic, you would agree that are gender

identities that go beyond male, female, and nonbinary, correct?

A. So people can have different identities and different labels for their identity, but we really just have one -- well, two really gender dysphoria diagnoses, gender dysphoria of childhood and gender dysphoria of adolescence and adulthood, that set forth what kinds of treatment may or may not be provided.

Q. And I'm not asking about the treatment. I'm asking about the gender identity. So --

A. Well, I just say that because it's important to recognize that people can state, like, on a survey whatever their identity may be, but that is a different thing from the clinical care we provide.

Q. Okay. So you -- can you provide a list of all the different gender identities that there are?

A. No.

Q. Do you -- so let me -- let me move on and I'll come back to this in a moment.

So health collection data in the United States is much more variable and fragmented than in the Scandinavian countries, for example. Isn't that right?

A. Certain health collection data, certainly from one clinical system to another in -- in some European countries, they have more centralized data that -- because

they have national health services that we don't have. There's other data, for example, like the -- there are these population-base national health surveys that are done in the US that don't have that problem because they're based on calling people on the phone and interviewing them based on -- on where they live, basically, not what health care they receive.

But within health care systems -- our health care systems are fragmented so we don't have the same common database within a health system.

Q. And, specifically, if we're talking about the country of Sweden, Sweden has a national health system with centralized data collection, correct?

A. Yes.

MR. CANTRELL: Your Honor, may I approach the witness?

THE COURT: Certainly.

BY MR. CANTRELL:

Q. Dr. Karasic, if you would, I've handed you a binder. If you would, open that to tab number 4.

THE COURT: Is this Exhibit 17?

MR. CANTRELL: Yes, Your Honor.

THE COURT: Are you going to offer it because it hadn't been received into evidence? It's not been stipulated to at least based on the form I looked at so --

MR. CANTRELL: That's correct, Your Honor.

THE COURT: We need to address that before we go forward, I guess.

MR. CANTRELL: Okay. Your Honor, I intended to do something similar to what plaintiffs' counsel did with the WPATH Standards of Care 8 and read some of the excerpts into the record.

THE COURT: I guess what I'm saying is, is that I know that this is a exhibit that's in controversy. Before we go there, since it wasn't stipulated and that was brought to my attention, I need to deal with that, whether or not there is an objection to that. No objection was raised when we were going into what I will call protocol 8 or Standard of Care 8, but I'm on alert for this one. So I need to know how you plan to address it as far as an exhibit before we just talk about it in court.

Do you have somebody that's going to offer it or?

MR. CANTRELL: I was hoping that Dr. Karasic could testify to the basis for this exhibit.

MS. COOPER: We would object to that as hearsay.

MR. CANTRELL: Your Honor, this is not hearsay. It is -- it is a public record. It sets out the --

THE COURT: It's not a public record, Mr. Cantrell. I mean, he can -- if it's filed in some

court or some courthouse somewhere like a property record or something like that. The fact that it's available to the public doesn't make it a public record as defined by the hearsay rules. Are you saying that it's filed somewhere of record that I can, say, go to the courthouse or something and receive it as a public record as opposed to it's out there generally available to the public?

MR. CANTRELL: No, Your Honor. It's a public record in the sense of it's published by the National Board of Sweden, which is a public entity and, Your Honor, there is a --

THE COURT: I'm not sure that qualifies it as a public record. Now, you might be able to impeach him with it, but it doesn't pass muster that some society that's a public association or something has filed a report. What it looks like to me, the National Board of Health and Welfare doesn't make it a public record.

MR. CANTRELL: Your Honor, it is a publication of --

THE COURT: I agree with you there --

MR. CANTRELL: -- of an entity that is a public entity of the country of Sweden. Your Honor, I do have authority where these sorts of records have been accepted under Federal Rules of Evidence 803(8), the public records exception.

THE COURT: Okay. Can I see that?

MR. CANTRELL: Give me one moment, Your Honor.

THE COURT: You want this witness to testify whether or not it's a public record under the government of Sweden? How is he going to do that?

MR. CANTRELL: Your Honor, Mr. Karasic has knowledge -- I believe his testimony will show he has knowledge of the summary of guidelines. We went through it in his deposition and he's familiar with it.

MS. COOPER: Objection, Your Honor. The fact that he was shown it and asked about it in his deposition doesn't mean he can --

THE COURT: I understand. I'm going to let him try, but first I need to see your authority that I can accept some public record from Sweden as a public record under the Federal Rules of Evidence.

MR. CANTRELL: Yes, Your Honor. So there is a Second Circuit case, *US versus Gahloub*, G-a-h-l-o-u-b. It's 385 F.2d 567. In that case, the Second Circuit ruled that the district court properly admitted into evidence a summary of Syrian census records as being within the official records exception to the hearsay rule.

There are other cases. For example, *Glowczenski versus Taser International Incorporated*, 928 F.Supp 2d 564. In that case there was a Canadian -- excuse me.

Nonpeer reviewed British Columbia report, so it was from Canada, that the plaintiffs argued the report was inadmissible but the --

THE COURT: Census records are one thing. Some summary that has opinions regarding medical treatment is a whole other thing, Mr. Cantrell. I mean, do you have --

MR. CANTRELL: Your Honor, I believe the same -- the same analysis would apply being a publication of a public entity of a foreign country, but still being something that -- that is on its face --

THE COURT: Can I see your cases because I'm not drawing -- can I see --

MR. CANTRELL: This is my four cases, Your Honor.

THE COURT: Mr. Cantrell, I'm going to let you try to lay a foundation for this document while I'm looking over these case. Two are district court cases, one from New York and one from Utah. They're not even circuit court cases, much less Eighth Circuit case.

The other one I'm not sure that I -- based on what you have highlighted, that I can understand what that one is about because all it says is the objection that the documents constituted inadmissible hearsay and that the records were admissible under the public records exception, but doesn't tell me anything about what they

were. I can read the case while you're doing that, but why don't you go ahead and see if you can establish through this witness that it's a public record and I'll see where we are after that.

MS. COOPER: Your Honor, if I may, the public records exception to the hearsay rule, it has to be a reporting of something under legal duty to report.

THE COURT: I understand that in the rule. I'm looking at that. Here's some case law that argues that, if it would have been a public record in the United States, it's admissible at least past the hearsay rule, but I'm not sure that any report from the American Medical Association or otherwise would qualify as public record under the United States rules. That's the bar you're going to have to chin, Mr. Cantrell, but I'll let you try.

MS. COOPER: I was suggesting, I think, that given there is a legal duty to report that, I think those types of documents are --

THE COURT: I'm going to give him a shot.

MR. CANTRELL: Your Honor, if I may address. The legal duty to report does not apply in this case. It's a disjunctive test. So all that's required is that it sets out the office's activity and that the -- part (b) of Rule 803(8) provides that the opponent does not show the source of information or other circumstances indicate

a lack of trustworthiness.

THE COURT: That's kind of the catch-all. If they can show it's not trustworthy, it doesn't get in no matter what angle, but --

MR. CANTRELL: In any case, that's the plaintiffs' burden, Your Honor.

So I just will also add, Your Honor, the residual exception also applies and -- anyway, so let me -- let me lay a foundation.

BY MR. CANTRELL:

Q. Dr. Karasic, you're familiar with the summary of new guidelines published by the Swedish National Board or Health and Welfare correct?

A. No, not in that I don't use it in my regular practice. I'm familiar with it because you brought it up in deposition and so we went through it in deposition, but I don't really have a sense of how it was constructed and, you know, what was behind it.

In fact, since I've -- I was a keynote speaker at the Scandinavian Transgender Conference --

Q. Let me ask you not to go into extraneous matters.

A. I'm just saying why I don't know what -- where this falls within the spectrum of documents that come out of Sweden, but I did go through it with you in deposition.

Q. So, Dr. Karasic, you were aware of this document

prior to the deposition, correct?
A. I had seen it and it may have been from a prior deposition because I've been an expert in a few cases. I don't recall the context in which I had seen it or if I'd seen it first with you or perhaps in a deposition in another case, but I had seen it. I have seen it before seeing it right now.
Q. So in any case, you do recognize it as a summary of new guidelines from Sweden, correct?
A. I recognize it as a statement from the from the National Board of Health and Welfare Socialstyrelsen. It's their Care of Children and Adolescents with Gender Dysphoria Summary. That's what it says on it. I don't know that, you know, kind of where it falls within kind of the health care provision in Sweden.
I've been there and I've spoken to people, but I don't -- to Sweden, but I have not -- I have no -- I don't know that was before this. I have no idea what the process was behind this.
Q. Dr. Karasic, you -- you testified in deposition in this case previously. Is that correct?
A. I'm sorry?
Q. You testified in a deposition in this case previously?
A. Yeah, with you.

Q. And you were under oath during that deposition, correct?
A. Yes. Yes.
Q. You swore to tell the truth, correct?
A. Yes.
Q. Did you tell the truth during your deposition?
A. I tried to.
Q. And plaintiffs' counsel was present, correct?
A. Yes.
Q. I'll show this is the videotaped deposition of Dan Karasic, Palo Alto, California -- this was done remotely -- Friday, May 20, 2022.

Turning to Page 87. So looking at -- we looked at an exhibit. I asked, all right. I've marked as Exhibit 7 and tell me if you recognize this exhibit.

Yes, I recognize it.

Question: Okay. You recognize this as a summary of new guidelines from Sweden from earlier this year?

Answer: Yes.

Is that your testimony?

A. Yeah, I assumed so. I mean, I -- I recognize it as what it is and I'm may have seen it before in the prior deposition, but I don't recall.

MR. CANTRELL: Your Honor, with that basis, we move to admit Defendants' Exhibit 18 into evidence.

MS. COOPER: Objection, Your Honor. Maintain our objection that it's hearsay and is not subject to the business records exception and that the -- there is no support for a report from a government.

THE COURT: I think he's offering it under the public records, to the extent there is a difference between (6) and (8) of 803.

MS. COOPER: I'm sorry. I meant public record. Your Honor, none of the elements in (a) -- (8)(a) that are required to be set out office activities -- none of the requirements set out under (8)(a), which are -- that's a record is a -- or a statement of a public office sets out the office's activities, a matter observed while under legal duty to report, or in a civil case or against the government in a criminal case, factual findings of a legal authority.

MR. CANTRELL: Your Honor, that is apparent from the face of the document itself. It sets out those activities.

MS. COOPER: I'm sorry. Which one -- the section? I didn't understand which was apparent from its face, which one of those prongs.

THE COURT: I think he's referring to page 2 under the bold face summary that says, the National Board of Health has been commissioned by the Swedish government

to update the national guidelines on care of children, et cetera, et cetera, is where I think he says that it sets forth the activities -- the office's activities.

I'm assuming that that's what you're referring to, Mr. Cantrell.

MR. CANTRELL: Yes, Your Honor.

THE COURT: I'm going to let you ask questions about it. I'm going to decide later whether or not to admit it as an exhibit, but you can certainly impeach him with it for now.

MS. COOPER: Your Honor, if I may just add, in the case I cited, it specifically says that, whereas here the foreign census books are kept on a village-by-village basis by a centralized census bureau. The probable objectivity of the records accurately indicating national origin, a distinguishing fact possibly subject to a greater recording error such as person's exact age, significantly overshadow the hearsay risk alluded to by the appellate.

So there's nothing on here, no foundation to say that this is objective. And in addition, there is also hearsay within hearsay within this document. So I continue to object to its admissibility.

THE COURT: I haven't gotten into those hearsay with hearsay or opinion issues yet. I'm going let him

impeach, which I feel like I'm on pretty firm ground on any. In any event, I'm going to let him go there and I can always -- the luxury of this being a bench trial and can work my way backward if I need to.

So go ahead, Mr. Cantrell.

MR. CANTRELL: Thank you, Your Honor.

BY MR. CANTRELL:

Q. So Dr. Karasic, the Swedish National Board was commissioned by the Swedish government to update the national guidelines on care of children and adolescents with gender dysphoria. Is that correct?

A. Yes. Now, I'm reading the first sentence of the summary, and that's what it states. Yes.

Q. And the Swedish National Board deemed that, for adolescents with gender incongruence, the risk of puberty blocker and cross-sex hormones outweigh the possible benefits, correct?

A. I'm assuming that it says that in somewhere. I know we --

THE COURT: I need you to point him to it. You can't just tell him to agree to an article that he claims he may not have ever have read, plus I need to follow along. Where are you?

Hang on a second, Doctor. He's going to get me to where he is in the document.

MR. CANTRELL: Yes, Your Honor. If you would turn to Page 3 of the document.

THE COURT: We're jumping forward. You had him on the summary and that's where I was. Now we're on Page 3. I'm there.

MR. CANTRELL: There is a heading, "Recommendations and Criteria For Hormonal Treatment."

THE COURT: I'm there.

MR. CANTRELL: Your Honor, I will -- I'll just read the portions into the record if that is --

THE COURT: You can't just do that. This is impeachment. You get to ask him about whether or not he agrees with this or not, but I'm not going to allow you to read it into the record when I haven't made a determination about whether or not it's admissible. I told you I was going let you impeach on it, but you can't just read to me. I can do that.

MR. CANTRELL: Understood, Your Honor.

THE COURT: Okay. Go ahead.

BY MR. CANTRELL:

Q. So the question again is, Dr. Karasic, the Swedish National Board deemed that, for adolescents with gender incongruence, the risk of puberty blockers and cross-sex hormones outweigh the possible benefits, correct?

THE COURT: Are you asking him if that's what it

says? Because that's what you just did to me. You read it into the record. You didn't ask him a question. You said, is that what it says.

Mr. Cantrell, ask him a question that has to do with the substance. I told you not to just read it into the record. And you asked him, is that what it says. That's not really a question. You just read it into the record.

MR. CANTRELL: Your Honor, I was reading from my outline which I --

THE COURT: Be flexible enough to move off of it and work with what I'm asking you to do. Okay? Ask him a question.

MR. CANTRELL: I'm endeavoring to follow Your Honor's instructions.

THE COURT: Thank you. What's your question of this witness with regard to Page 3?

BY MR. CANTRELL:

Q. So the question is whether Sweden determined that the risk of puberty blockers outweigh the possible benefits.

MS. COOPER: Objection. Outside the scope of direct and expertise.

THE COURT: Unless we want to take the time of him recalling this witness in his case in chief, I'm going to let him go well without the scope of direct. This is cross-examination and I'm going to give him as much leeway

as I can.

But are you asking him if he agrees with that or disagrees with that? I can read here that that's what they said.

MR. CANTRELL: I'm asking him if in fact that was what he understood Sweden to have found.

THE COURT: Answer the question, Doctor.

THE WITNESS: Sure. So first of all, one has to distinguish between Sweden and the NBHW. On my -- the chapter I worked on on Standards of Care 8, one of the members of the chapter was the founder and director of the Swedish general clinic at Karolinska Institute who does not agree with this.

So I agree that this -- that there is this NBHW that put out this statement because I'm - I'm reading it.

Q. I'm sorry. I could not -- you agree that --

A. I agree that the statement is here, but I don't agree that that's the equivalent of saying Sweden, as in all of Sweden, because I -- I mean, maybe -- I don't know if this is admissible, but, you know, because I've worked with people from Sweden who don't agree with this. So I wouldn't call it Sweden. I would say the NBHW has written this.

Q. I may have spoken loosely a minute ago when I asked the question. I intended to refer to the Swedish National

Board in that case.

So is it your understanding that the Swedish National Board has determined that for adolescents, the risk of puberty blockers outweigh the possible benefits?

A. So I see that they wrote that -- that they wrote that the risk currently outweighs the benefits and treatment should be offered only in exceptional cases. So I'm reading that, but I'm also reading the part that says they're continuing to provide treatment in exceptional cases.

So they do have a recognition about concerns about risk versus benefits and they're also making the judgment to continue providing the treatment under exceptional cases.

I make that not under a great understanding of the whole document, but just the part that you've had me look at just now.

Q. And so I asked about puberty blockers. The same would apply to cross-sex hormones, correct?

THE COURT: You mean whether or not --

MS. COOPER: -- point him to a particular part of the document you're asking him to look at.

MR. CANTRELL: It's the same part of the document.

BY MR. CANTRELL:

Q. The sentence says, GnRH analogues and gender-affirming hormone treatment. So they are --it looks like the NBHW is writing here that the risks currently outweigh the possible benefits and, therefore, the treatment should only be offered in exceptional cases.

THE COURT: For both puberty blockers and hormones? I think that was his question.

THE WITNESS: Well, yeah. It says that the treatments, within an S on the end. So I assume that they're referring to both treatments, both GnRH analogue and gender-affirming treatment.

BY MR. CANTRELL:

Q. One of the reasons the Swedish National Board came to this determination was the lack of scientific evidence supporting those treatments, correct?

MS. COOPER: Objection, Your Honor. This doesn't sound like impeachment. This sounds like trying to elicit testimony to make his case from Dr. Karasic.

MR. CANTRELL: Your Honor, Dr. Karasic testified to studies --

THE COURT: If you can tell me where it is that it says it in this report and ask him if he agrees with that. I'm still not following along with the leap you made from point one to the one you're about to make. Where is it that --

MR. CANTRELL: If you look in that -- or the -- that same paragraph, the second sentence beginning, this judgment is based --

THE COURT: On Page 3?

MR. CANTRELL: On Page 3, yes, Your Honor.

THE COURT: So I'm there. Three factors. What is your question about that -- that portion of the first paragraph?

MR. CANTRELL: So the question is, is whether Dr. Karasic would agree that Sweden made that determination based on a lack of reliable evidence.

THE COURT: Or this --

MS. COOPER: Objection.

THE COURT: -- this national board as opposed to Sweden. Either way.

Answer the question if you can, Doctor.

THE WITNESS: Sure. Well --

THE COURT: Do you know the line and sentence that we're on within Page 3?

THE WITNESS: I do see this next sentence that says -- well, I don't know if I should be reading into the record, but that -- that says that they made this judgment and the reasons that they made this -- this judgment. I also -- I mean, if you're asking my opinion, I would say I --

THE COURT: I'm not sure he is. I need to find out what his question is now that we're on the right line. What is your question, Mr. Cantrell?

MR. CANTRELL: My question is whether Dr. Karasic understands that one of the factors that the Swedish National Board based this determination on was the lack of scientific evidence supporting the treatments.

THE COURT: Are you asking him does he understand what the sentence reads?

MR. CANTRELL: I'm asking him for his understanding.

THE COURT: He's not going to know. He might -- unless he was on the board, he's not going to know. You can ask him, is that what it says on the paper there. But what you're asking him is their state of mind, not what the report says. So you need so develop whether or not he was in on these conversations or what, but it's one thing to ask him, is that what it says.

MR. CANTRELL: Will Your Honor permit that line of questioning?

THE COURT: Sure. Perhaps even suggesting it.

BY MR. CANTRELL:

Q. Okay. So Dr. Karasic, isn't it true that the Swedish National Board's judgment was based on the lack of scientific evidence concerning those treatments?

THE COURT: Sounds a lot like the same question, Mr. Cantrell.

MR. CANTRELL: I'm sorry, Your Honor. I --

BY MR. CANTRELL:

Q. Is it your understanding, Dr. Karasic, that based on the -- this document, that based on the summary guidelines, that Sweden based its determination in part on the lack of reliable scientific evidence concerning the treatments?

MS. COOPER: Same objection, Your Honor. We've not established that Dr. Karasic knows anything about the process that this board engaged in or its thinking.

MR. CANTRELL: Your Honor, I don't think that is necessary for this line of questioning.

THE COURT: It is for the question you asked, whether or not he has personal knowledge as to what they did. You've showed him this report in an improper impeachment. I'm not holding a trial ed class here, but you can say, I want you to assume for a moment that what is read on this paper is what they found. Do you agree with that or not, would be an appropriate line of questioning. Asking him whether or not that's what they thought and did when he wasn't part of that board, he doesn't have any way to answer that unless he was part of the board or has spoken with people who were part of the

board or something like that.

But the way you're phrasing your questions asks him to pretend he was part of the board and ask what their findings were.

I can read what they say they were and you can ask him whether or not he agrees with that, but you can't ask him to confirm that that's what they found because he -- all he can say is, I can read like everyone else in the room that that's what they said they did, but we can all do that. We can all read the report and assume that that's what they wrote down, but to ask him if that's why they did it, he doesn't know. He can either agree or disagree with what they found.

MR. CANTRELL: Your Honor, let me ask if we might proceed in a different way. Under Federal Rules of Evidence 803(18), statements in learned treatises, periodicals, or pamphlets can be used as long as they're called to the attention of an expert and the publication is a reliable authority. So I would propose to proceed in that way by -- by, essentially, using this document as a learned treatise, periodical, or pamphlet.

MS. COOPER: Your Honor, if I may, we would object to that because there is -- it's not been established that this is the type of document that would -- that Dr. Karasic would ordinarily rely on in his

professional work.

THE COURT: Mr. Cantrell, why are you using this -- if you're going under 18, why are you using this witness to do it?

MR. CANTRELL: Your Honor --

THE COURT: I mean, I don't know that he can. You're saying I guess -- I'm allowing you to go into it despite the fact it may or may not be hearsay to impeach him, but what is the purpose of you bringing this up with this witness? We're wasting a lot of time swimming around in circles about whether or not you can ask him, do you agree with it or not. And we're all aware that this is what the board says.

What is it you're trying to accomplish with this witness?

MR. CANTRELL: Your Honor, the Swedish guidelines -- the Swedish guidelines demonstrate that, according to their judgment, the -- these treatments -- the harms outweigh benefits.

THE COURT: First of all, on 18 the statement was not called to the attention of this witness. Well, it was on cross-examination, but it wasn't relied upon him. The publication is established as reliable authority. I'll give you a maybe on that. By the expert's admission or testimony, he hasn't done that. Or by other expert

testimony or by judicial notice. I don't know enough to judicially notice this.

So it looks like you may have to wait for another expert who can testify that they considered this valid science.

MR. CANTRELL: Understood, Your Honor.

THE COURT: So I'm still trying to figure out what you're trying to accomplish with this witness through this document other than whether or not he agrees with it.

MR. CANTRELL: Your Honor, I'll move on and we will have an opportunity at a later time as Your Honor has suggested.

THE COURT: Okay.

BY MR. CANTRELL:

Q. Let me just ask on -- on these guidelines, Dr. Karasic, Sweden -- the Swedish National Board has recently adopted guidelines that are more cautious than what WPATH allows, correct?

A. So that's my understanding from when I think it was the -- or not the -- deposition that we did that we went through this document, and I agreed that it's more cautious from that -- from -- you know, from having read it that time, that that is more cautious than Standards of Care 8 that we've been talking about or Standards of Care 7 was still in effect at that time.

Q. Just to be clear, your understanding is that the Swedish National Board's guidelines are more cautious than WPATH's correct?
A. Yes. It says only in exceptional cases, and I think that's more cautious than --
THE COURT: Are we on a different set of guidelines?
MR. CANTRELL: No, Your Honor. That was just a final question concerning this, not -- not trying to bring in the document.
Okay. One moment, Your Honor. May I approach, Your Honor?
THE COURT: Sure.
BY MR. CANTRELL:
Q. Dr. Karasic, if you would please turn to Exhibit 13. I'm sorry. Exhibit 13, which is behind tab 1.
A. Behind tab 1?
Q. Yes.
THE COURT: Before we go down that same rabbit hole, can the plaintiffs stipulate to Exhibit 13 which is the DSM-5?
MS. COOPER: I'm sorry. We did not stipulate.
THE COURT: Why not?
MS. COOPER: Same. Hearsay.
THE COURT: Go ahead and ask whatever questions

you have, Mr. Cantrell. I'm not going admit it at this time, but I'm not sure why not.

BY MR. CANTRELL:

Q. Dr. Karasic, you're familiar with the Diagnostic and Statistical Manual based on your previous testimony today, correct?

A. Yes.

Q. And this is commonly called the DSM-5?

A. Yes.

Q. It is a compilation of criteria, psychiatric diagnoses, correct?

A. Yes.

Q. And the DSM-5 is generally relied on by practitioners in the psychiatric profession, correct?

A. Yes.

Q. You consider the DSM to be a reliable authority?

A. Yes.

Q. The DSM includes a chapter on gender dysphoria, correct?

A. Yes.

Q. Do you recognize Defendants' Exhibit 13 as the DSM-5's chapter on gender dysphoria?

A. Yes.

Q. And you submitted a report in this litigation, correct?

A. Yes.
Q. In that report you quoted from the DSM-5's chapter on gender dysphoria, correct?
A. Yes.
Q. You have used the DSM-5's chapter on gender dysphoria for making decisions concerning the treatment of patients with gender dysphoria, correct?
A. Yes.
MR. CANTRELL: Your Honor, I would move to admit Defendants' Exhibit 13 into evidence.
THE COURT: Under 18 -- let me finish.
Under 18, you can read portions of it into evidence, but it's not received as an exhibit, at least under 18. So since it's a nonjury trial, it's basically -- doesn't make any difference, but if you'll point to me in the portion of Exhibit 13 so I can highlight that so I can go back to it without referring to the record, I'll do so. Where are you?
MR. CANTRELL: Yes, Your Honor. I'm on Page 451 at the bottom.
THE COURT: I'm there.
MR. CANTRELL: And there is -- there is a large center paragraph about --
THE COURT: The need to introduce?
MR. CANTRELL: Yes. If you would go one, two,

three, four, five lines up.

THE COURT: Up or down?

MR. CANTRELL: Up from the bottom, I'm sorry, of that paragraph starting, transgender refers to.

THE COURT: We're all trying to get there doctor. You can work your way like I can.

THE WITNESS: Yeah.

THE COURT: In this chapter. So you're talking about the first full paragraph that says, in this chapter?

MR. CANTRELL: No. The second paragraphs beginning, the need to introduce.

THE COURT: You told me to go up from there so I was --

MR. CANTRELL: Up from the bottom of that paragraph.

THE COURT: Up from the bottom. Okay. What are you -- gender identity as a category?

MR. CANTRELL: It begins, transgender refers to. It is one, two, three, four, five lines up from the bottom of that.

THE COURT: I'm there. And are you -- how far down are you asking to go?

MR. CANTRELL: Only that sentence, Your Honor.

THE COURT: Okay. I can read it. You don't have to read it into -- well, I'll read it into the

record.

Transgender refers to the broad spectrum of individuals who transistently or persistently identifies with a gender different from their natal gender, period.

MR. CANTRELL: Yes, Your Honor.

THE COURT: Keep going.

MR. CANTRELL: And the next statement is on Page 453. There is a heading, diagnostic features. The second paragraph beginning, gender dysphoria manifests.

THE COURT: Yes. Manifests.

MR. CANTRELL: Only that sentence.

THE COURT: Gender dysphoria manifests itself differently in different age groups.

MR. CANTRELL: Yes, Your Honor.

THE COURT: Okay.

MR. CANTRELL: On Page 455, the bottom paragraph.

THE COURT: In both?

MR. CANTRELL: 455, the bottom paragraph. Yes, the second sentence beginning, early onset gender dysphoria.

THE COURT: Starts in childhood and continues into adolescence and adulthood. Continue?

MR. CANTRELL: Yes, and continuing on for the --

THE COURT: Or there is an intermittent period

in which gender dysphoria desist and these individuals self identify as gay, homosexual -- or homosexual followed by recurrence of gender dysphoria.

MR. CANTRELL: Then the next sentence as well.

THE COURT: Late onset gender dysphoria occurs around puberty or much later in life.

MR. CANTRELL: Yes, Your Honor. And two more sentences on Page 456, the last sentence of the first full paragraph and then the following -- I guess the following two sentences of the next paragraph.

THE COURT: The late onset group may have more fluctuations in degree of gender dysphoria and be more ambivalent about and less likely satisfied after gender reassignment surgery. Both adolescent and adult natal females, the most common -- in both adolescent and adult natal females, the most common course is the early onset form of gender dysphoria. Okay.

MR. CANTRELL: And the next sentence as well, Your Honor.

THE COURT: The late onset form is much less common in natal females compared with natal males.

MR. CANTRELL: And that is all for that exhibit, Your Honor.

THE COURT: Okay. Next question of this witness.

MR. CANTRELL: Thank you, Your Honor.

THE WITNESS: Are you asking me any questions about the DSM-5?

MR. CANTRELL: May I approach, Your Honor?

THE COURT: You can. Are you going to ask him anymore about the DSM-5?

MR. CANTRELL: No, Your Honor.

THE WITNESS: Can I comment? This is the outdated version of the text and there is now --

THE COURT: If the lawyer wants to ask you that question, you can, but you can't gratuitously offer information on cross.

THE WITNESS: Okay.

THE COURT: Thanks for offering.

THE WITNESS: Okay.

MR. CANTRELL: This is Defendants' Exhibit 14.

BY MR. CANTRELL:

Q. Dr. Karasic, if you would turn to tab 2, which should be Defendants' Exhibit 14.

THE COURT: Mr. Cantrell, this is version 7. We've been talking about 8. Why aren't we in 8?

MR. CANTRELL: Yes, Your Honor. Version 8 only came out a month or so ago. When the SAFE Act was passed, version 7 was in effect.

THE COURT: Okay. Continue.

THE WITNESS: So I'm sorry. Where are you asking me to look at?

THE COURT: He's about to ask you about WPATH 7.

THE WITNESS: Okay. From the report you're just asking me questions?

MR. CANTRELL: Tab 2 of your binder.

THE WITNESS: Thank you.

MR. CANTRELL: Your Honor, I would ask how you would like to handle the --

THE COURT: Depends on your question, Mr. Cantrell. I can't tell you that just yet. You tell me what you're trying to accomplish with this witness with this document, and I'll see if we can accelerate the pace in which that happens.

MR. CANTRELL: Yes, Your Honor.

Let me -- let me jump in and we'll do it as expeditiously as we can.

BY MR. CANTRELL:

Q. Dr. Karasic, you're familiar with version 7 of the guidelines published by the World Professional Association for Transgender Health, correct?

A. Yes.

Q. That organization is commonly called WPATH, correct?

A. Yes.

Q. Those guidelines are entitled, Standards of Care for

the Health of Trans-sexual, Transgender, and Gender Nonconforming People, correct?

A. Yes.

Q. And the authors of WPATH 7 guidelines intended for it to provide the gold standard of care, correct?

A. Well, I can't speak to how -- I mean, I was one of the authors, but I think it was an attempt to provide practice guidelines to provide the best care, and so that counts as the gold standard.

Q. Okay. Those guidelines were in effect when the law that's the subject of this litigation was enacted, correct?

A. Yes.

Q. And the WPATH guidelines do not attempt to grade the quality of the evidence for their recommendations, correct?

THE COURT: I didn't hear that. It says, they don't attempt to grade the quality of the evidence for their recommendations?

MR. CANTRELL: That's correct.

THE COURT: I don't understand the question.

BY MR. CANTRELL:

Q. Okay. Dr. Karasic, the WPATH guidelines do not try to evaluate how high quality or low quality of the evidence for the recommendations are, correct?

A. So those grade recommendations came into common usage after Standards of Care 7 were -- version 7 were written. This was released in 2011. Standards of Care 8, which was after the grade came into common usage, did utilize a modified grade criteria.

Q. Okay. So your answer is no I take it then.

THE COURT: I think what he's saying was they weren't grading evidence at the time 7 was published.

THE WITNESS: Right. You asked the standards of care in your question, and there's Standards of Care 7 and 8. And 7 did not attempt to grade because it wasn't in common usage when the process went about of creating 7. It did become common usage for practice guidelines in between 7 and 8, and so for 8 there was an attempt to use a modified grade criteria.

BY MR. CANTRELL:

Q. So I understand you to say that it is correct that the WPATH 7 guidelines do not grade the quality of the evidence, correct?

A. Yes.

Q. Okay. Thank you. Do you recognize Defendants' Exhibit 14 as the WPATH version 7 guidelines?

A. Yes. Under section 2, yes.

Q. I'm sorry. Yes?

A. What's under section 2, yes, is Standards of Care 7.

Q. That has a sticker on it that says, Defendants' Exhibit 14, correct, on the front page behind that tab?
A. It says 2 on the tab and there is -- I don't see a sticker on the exhibit but --
THE COURT: Mine does.
THE WITNESS: Okay. I think mine may not.
MS. COOPER: Your Honor, if I may clarify. No objection to reading excerpts in under the learned treatise exception, but I object to admitting into evidence, just to be clear on the record.
THE COURT: We're not there yet, but go ahead.
BY MR. CANTRELL:
Q. Dr. Karasic, you've discussed the WPATH version 7 guidelines in a report you submitted in this litigation correct?
A. Yes.
Q. And you've used the WPATH 7 guidelines for making decisions concerning the treatment of patients with gender dysphoria. Is that right?
A. Yes.
Q. And a psychiatric diagnosis related to gender identity is necessary to receive cross-sex hormones under the WPATH version 7 guidelines, correct?
A. So the Standards of Care 8 does have a requirement for a diagnosis. Standards of Care 7 did not list a

diagnosis because we were in between DSM-IV-TR and DSM-5, which was GID, gender identity disorder, and gender dysphoria. And so Standards of Care 7 talks about gender dysphoria, kind of small letter G and D, as a symptom but not as a diagnosis because that diagnosis had not been established by the APA yet.

THE COURT: Just so I'm clear, Doctor, same requirement, just different terminology as to 7 and 8?

THE WITNESS: No. Standards of Care 7 -- well, Standards of Care 7 and 8 are different documents, but there are many principles that carry through. 7 was the--

THE COURT: Mr. Cantrell was asking you whether or not it was a requirement that a diagnosis of gender dysphoria be made.

THE WITNESS: Right.

THE COURT: You said no because gender dysphoria wasn't called that under DSM-IV, not until DSM-5. So my question was, except for the terminology used in 7 and 8, was the requirement the same?

THE WITNESS: The requirement of a diagnosis was -- it's clearly one of the -- it's kind of one of the bold-faced recommendations in Standards of Care 8. The Standards of Care 7, there is talk of diagnosis I believe, but not a specific diagnosis.

So there isn't a requirement of a specific diagnosis

just because there was the knowledge that gender identity sort of -- that that diagnosis was being discarded and gender dysphoria was going to replace it. There was also the knowledge that in that ICD-10 was going to be transitioning to ICD-11. So it was written with a sense -- an understanding of that the specific diagnoses were in flux, but it certainly establishes kind of an equivalent that the person has persistent gender dysphoria in order to receive treatment. It just isn't saying they should get -- have a specific diagnosis because of the knowledge that those diagnoses were about to change.

And then by Standards of Care 8, the international community had adopted ICD-11, and the United States and other places that use the DSM were already on DSM-5 and actually DSM-5-TR, the updated DSM-5, by the time Standards of Care 8 came out.

So they -- so Standards of Care 8 has this requirement of gender incongruence except in countries that are using a different diagnosis referring to the United States, which is gender dysphoria.

BY MR. CANTRELL:

Q. So regardless of whether we call it gender identity disorder or gender dysphoria, a psychiatric diagnosis related to gender identity was necessary to receive cross-sex hormones under the WPATH 7 guidelines, correct?

A. I think -- I'm trying to think of how it was phrased because of the flux in diagnoses, but it was -- there was an establishment that the person had what was really the equivalent of a gender dysphoria diagnoses; that they had, you know, strong and persistent gender dysphoria in order to get treatment.

So I think, in essence, there was an idea that people should have the diagnosis, whatever the diagnosis was to come, even in this state of flux of what the diagnosis was, and then once when there was the update in Standards of Care 8 and those diagnoses were well established, they could kind of list those as requirements.

Q. So I understand you to say that it's correct that a psychiatric diagnosis was required under the WPATH 7 guidelines, correct?

A. I'm just sure --

MS. COOPER: Objection. Confusing.

THE WITNESS: I'm not sure it phrases that way. You know, I can look through the whole document, but just because -- so the international community was moving toward ICD-11 where gender incongruence is not a psychiatric diagnosis and the United States with DSM-5 was continuing to have a psychiatric diagnosis with gender dysphoria.

So because WPATH is -- also is our international

guidelines, I think they're trying to accommodate everyone by talking about the gender dysphoria that's treated should be something that would today get one of those diagnoses of internationally a gender incongruence or in the United States gender dysphoria, but without listing a specific diagnosis because of that uncertainty. That's my sense even from being part of a of the process.

Did they ever say psychiatric diagnosis in the text? I don't recall. But that was the -- the intent was something kind of akin to a gender dysphoria diagnosis in order to get care.

Q. That was my question. Yes.

A. The gender dysphoria diagnosis didn't exist yet, but something akin to what would be the gender dysphoria. I think there was intent that that was part of the requirement in order to get care.

Q. Right. Okay. Thank you.

I believe your testimony was that both the WPATH and Endocrine Society Guidelines require comprehensive mental health assessment before an adolescent is provided with cross-sex hormones, correct?

A. Yes.

Q. And evaluation of a mental health -- excuse me. Let me start over.

Evaluation of mental health for minors must be done

by a mental health professional as opposed to a primary care physician, correct?
A. From minors in the Endocrine Society Guidelines and in Standards of Care 7. In Standards of Care 8 more generally, especially when they're talking about adults, they use the word "health professional" because there are some countries that don't have robust mental health professionals. Not the United States. But in the adolescent chapter, it specifically says -- recommends that that individual should be a mental health professional.
Q. What is the youngest age at which a provider may prescribe puberty blockers for gender dysphoria?
A. So the youngest age is not a specific age, but it's the onset of puberty or as recognized by Tanner stage 2.
THE COURT: What stage 2? Just what was the word.
THE WITNESS: Tanner, T-a-n-n-e-r.
THE COURT: I didn't hear the Tanner part. Thank you.
BY MR. CANTRELL:
Q. What is the youngest age at which a provider may prescribe cross-sex hormones for gender dysphoria?
MS. COOPER: Objection. Confusing.
THE COURT: Do you understand the question,

Doctor?

MS. COOPER: Didn't know which standards were being referred to.

THE WITNESS: I mean, I can --

THE COURT: Well, make your clarification. Are we talking about under 7, 8, or the endocrine guidelines?

BY MR. CANTRELL:

Q. If Dr. Karasic is aware of the standards under all three, I would be happy for him to testify.

A. The Endocrine Society talks both about the age of majority being 16, but also that there's some evidence for using it in young -- using gender-affirming hormones in younger adolescents age 13 and a half to 14. So that's the Endocrine Society.

In Standards of Care 7, there is mention that the age of majority in some countries is 16, but it does not set a minimum age for gender-affirming hormones.

In Standards of Care 8, there is not a minimum age for gender-affirming hormones but there is a lot of discussion about minors having had years of gender diversity and having the cognitive maturity to understand risk/benefits, future consequences before starting, and that that might set an age floor of sorts.

Q. Let me ask you about three surgeries. Okay. So first of all, what is the youngest age at which a provider

may perform a mastectomy for gender dysphoria?
A. So if we -- first of all, we're talking about Standards of Care 7 was released in 2011 and then the Endocrine Society in 2012, Standards of Care 8 in 2022. And so Standards of Care 7 did not provide a minimum age, although there's some confusion because there's some text about that in Standards of Care 8. But when you look at Standards of Care 7, it says preferably with a year of being on testosterone before chest surgery that it can be provided under the age of 18.

In the Endocrine Society Guidelines, it does not -- it does not set an actual minimum age in the updated Endocrine Society Guidelines of 2017.

In Standards of Care 8, I guess I said that it talks about cognitive maturity, but doesn't set a specific age.
Q. So WPATH version 8 does not have a minimum age for mastectomy?
A. Right. We talked about the -- I talked about this earlier in my testimony, that Standards of Care 8 sets 18 for phalloplasty but for other surgeries, in lieu of setting a minimum age, it goes into length of cognitive maturity and ability to understand the consequences in a way that they can assent along with parental consent.
Q. Okay. So I asked you about mastectomies. I want to ask you about vaginoplasty and phalloplasty as well. If

you could tell us -- first of all, I guess let me just ask.

So the -- I understand your testimony to be that the WPATH version 8 standards do not set a lower age for vaginoplasty, correct?

A. Yes. So from my testimony earlier, the Standards of Care 8 does not -- sets an age for phalloplasty, but for other surgeries, including vaginoplasty, it does not set a specific age. It instead talks about the maturity of the minor and the cognitive maturity and the stability and longevity of the gender dysphoria.

Q. And that's a departure from version 7 of the WPATH guidelines, correct?

A. Yes.

Q. And WPATH 7 guidelines, what was -- was there a lower age limit for vaginoplasties?

A. So Standards of Care 7 recommends a minimum age of the age of majority, in the United States that would be 18, for genital surgery.

MR. CANTRELL: Your Honor, I want to ask Dr. Karasic about some of the statements in the WPATH 7 guidelines. Would you permit me to read those or how would you like me to proceed?

THE COURT: Ask the question and I'll see if you're on solid ground, Mr. Cantrell. I'm going to see

how you do and we'll go from there. I'm not going to prejudge your questions. So go ahead and ask them.

BY MR. CANTRELL:

Q. Dr. Karasic, please turn to Page 8 of the WPATH version 7 guidelines.

THE COURT: Which is your Defendants' 14, correct?

MR. CANTRELL: That is correct.

THE COURT: All right.

BY MR. CANTRELL:

Q. If you look down the very bottom of Page 8, there are -- three lines up from the bottom.

THE COURT: Let me know when you're there doctor.

THE WITNESS: Page 8.

BY MR. CANTRELL:

Q. Page 8 very bottom, three lines up from the bottom. It says, often with the help of psychotherapy, some individuals integrate their trans or cross-gender feelings into the gender role they were assigned at birth and do not feel the need to feminize or masculinize their body.

Do you agree with that statement?

A. So what I would say is that it's useful to think about the people in whom gender-affirming medical care is indicated as opposed to all people who might be

questioning their gender identity. So we know that the percentage of people who are -- who actually seek medical care is much lower. And so there may be people who have gender dysphoria but milder symptoms around their body who might decide with their health care providers not to make intervention with their body because they're not having severe symptoms, and then there are others who go to their health care professionals with very severe gender dysphoria and really do need medical or surgical intervention.

THE COURT: That was -- Mr. Cantrell, I only had one criticism. When you read, make a conscious effort to read more slowly for the benefit of my court reporter.

MR. CANTRELL: Yes, Your Honor.

THE COURT: Thank you.

BY MR. CANTRELL:

Q. Dr. Karasic, if you would, look at the bottom of Page 10. And two lines up from the bottom over on the right-hand column or the right-hand side, the line beginning, in children and adolescents. Do you see that?

A. I'm sorry. On Page 10?

Q. Yes. The very bottom.

A. That's assessment and treatment of children with adolescence gender dysphoria?

Q. Yes.

A. Okay.
Q. Second line up over on the right, in children and adolescents. Do you see that?
A. Maybe I'm looking at another page. Is there two?
THE COURT: Right here, Doctor. Look down that same page right in that area, you'll see section --
THE WITNESS: In children and adolescents, you're saying the sentence that starts, in children and adolescents, a rapid and dramatic --
BY MR. CANTRELL:
Q. Yes. It says, in children and adolescent, a rapid and dramatic developmental process, physical, psychological, and sexual, is involved and there is greater fluidity and variability in outcomes, particularly in prepubertal children.
So, Dr. Karasic, you would agree that in children and adolescents, there is this rapid and dramatic developmental process, correct?
A. Well, first of all, I'm -- I do want to note that this is the 2011 version of the guidelines. And since then, there has been, you know, a new kind of set of texts.
Q. Would that have changed since 2011, Dr. Karasic?
A. Rapid and dramatic developmental process is involved and greatly -- yeah. I'm not quite -- I'm actually not

quite sure what that sentence means in kind of a broader context. Do you have a particular question about that sentence for me?

Q. Well, you're a psychiatrist, correct?

A. Yes.

Q. And you've dealt with children and adolescents extensively, correct?

A. Yes.

Q. And you've dealt with adolescents with gender dysphoria, correct?

A. Yes.

Q. Is it -- is it your experience that adolescents are undergoing a rapid and dramatic developmental process that is physical, psychological, and sexual?

A. So, yeah, that's what I was just trying to kind of understand what they were saying. This is -- this is referring to a rapid and dramatic developmental process overall for adolescents because there are aspects in adolescents where there is a rapid development neurocognitively more generally.

In terms of -- in terms of gender dysphoria, there is a belief that -- that for many youth who become trans adolescents, that there is evidence of gender diversity that precedes that, prior to kind of a recognition of that person that they are trans.

And so anyway so just trying to understand the sentence within the kind of current context of Standards of Care 8.

Q. And none of that would have changed since 2011, correct?

MS. COOPER: Object to form.

MR. CANTRELL: Let me ask a better question.

BY MR. CANTRELL:

Q. So if -- if it were the fact that adolescents undergo a rapid and dramatic developmental process in terms of their physical, psychological, and sexual aspects, that would not have changed since 2011, correct?

A. Yeah. If we're talking about adolescents in general and that they -- you have a rapid developmental process in adolescents, and the adolescents in 2011 and adolescents in 2022 has aspects of rapid developmental process.

Q. And if you would turn to Page 12. There is a heading, phenomenology in adolescents. Do you see that heading?

A. Yes.

Q. And the first line under that reads, in most children, gender dysphoria will disappear before or early in puberty.

So is it -- let me ask you this. Is it your understanding that the WPATH 7 guidelines acknowledge that

-- that children who have prepubertal gender dysphoria will in most cases desist before they reach puberty?
A. So Standards of Care 7 I think made these statements in using the data that they had at the time, which were these older studies primarily with feminine boys. There were some studies out of -- out of Amsterdam. The modern American study had not yet happened, so that Standards of Care 8, 11 years later based on current information, might phrase it a little bit differently. This is referring to though those older studies. Many of them were just with feminine boys where there were high desistance rates.

Either way, it's a prepubertal phenomenon. It's just the discussion has gotten broader as new data has emerged.
Q. So am I correct that your answer is, yes, that the authors of WPATH 7 acknowledge that gender dysphoria will disappear before early puberty?

MS. COOPER: Objection. Mischaracterizing testimony.

THE WITNESS: I think I testified how I believed. The sentence is what the sentence is. And I would say that, when with the same head editor, Eli Coleman, the Standards of Care had an opportunity to kind of update their discussion of this, that it was a broader discussion based on evidence that has come out since 2011.

MR. CANTRELL: Your Honor, at this time. I move

to admit Defendants' Exhibit 14 into evidence.

MS. COOPER: Objection. Again, the learned treatise exception allows excerpts to be read in, but does not allow admissibility. It is hearsay.

THE COURT: You read those portions into the record that you wanted. The document itself isn't admissible unless you're offering it under some other --

MR. CANTRELL: Yes, Your Honor. I would like to offer the entire document, but other than the --

THE COURT: For what purpose?

MR. CANTRELL: -- other than the portion -- I'm sorry.

THE COURT: It's --

MR. CANTRELL: Your Honor, this --

THE COURT: -- 90 pages or 102-some-odd pages long including funding and other things. What portions do you find relevant that you didn't read into the record? I'm assuming you read me everything you found relevant, but I don't necessarily assume that.

MR. CANTRELL: This document is the -- these are the Standards of Care that were -- the Standards of Care that were current when the SAFE Act was passed. We're not even offering them for the -- entire document to prove --

THE COURT: If you'll winnow down what you consider relevant, I'll consider your offer, but I'm not

going let you put 102 pages in of things that are clearly not relevant to our discussion from my reading enjoyment.

If you find something that you weren't -- that you didn't just read into the record under 803(18) and you'll winnow down your Exhibit 14 to what really matters, I'll consider that exhibit. But I think it's overly broad as presented to me in this block of paper.

MS. COOPER: Your Honor, I emphasize that that document addresses much more than care of adolescents and is not relevant in -- many portions of that document in addition to the hearsay issue.

THE COURT: I'll take your 14 under advisement, pending it being thinned down to what actually matters to this case.

MR. CANTRELL: Can I have an opportunity to bring that back to the Court at a later time?

THE COURT: Absolutely.

MR. CANTRELL: Your Honor, I do want to make clear --

THE COURT: You'll have until 8:00 Friday night.

MR. CANTRELL: If it makes any difference, I would not offer it at this point to prove the truth of the matter asserted. So it wouldn't be hearsay. It would just be a statement of what the standards of care -- excuse me -- what the guidelines were for proponents of

these medical procedures.

THE COURT: It's still got to be relevant, Mr. Cantrell, before we even get to hearsay. So if you'll show me what you thinned down to relevance, I'll have a much smaller scope to deal with.

MR. CANTRELL: Okay. I will do that, Your Honor.

MS. COOPER: Your Honor, I would add I don't understand how that's not being represented for the truth of the matter asserted if these were the guidelines.

THE COURT: I don't even know what I'm considering yet, Ms. Cooper, so we're going to wait until I have a document in hand before we argue further about it.

MR. CANTRELL: May I continue?

THE COURT: Sure.

MR. CANTRELL: Thank you.

BY MR. CANTRELL:

Q. So, Dr. Karasic, you -- you testified concerning I believe what you called desistance studies earlier?

A. Yes.

Q. And you talked about potential differences between the DSM-IV and DSM-5.

THE COURT: Are we talking about persistent or desistent? I'm asking Mr. Cantrell what his question was

because I didn't hear.

MR. CANTRELL: Desistance.

THE COURT: Thank you. Continue.

BY MR. CANTRELL:

Q. So, Dr. Karasic, the DSM-IV did require a strong, persistent cross-gender identification, correct?

MS. COOPER: Objection. Confusing.

THE COURT: He can answer it if he can.

THE WITNESS: Yes. So the DSM-IV and the GID of children did say that, but it said "as evidenced by." And the evidence of that cross-gender behavior could all be behavioral things. It did not have to include the A1 criteria of identity. So it had a list of symptoms but somebody with very strong cross-gender behavior could get the diagnosis under DSM-IV. It wasn't -- that was what was recognized by the author, by Ken Zucker and Peggy Cohen-Kettenis, the head of the Dutch program, when they revised the GID of children diagnosis into the gender dysphoria diagnosis of DSM-5 and they made that A1 criteria required with -- out of recognition that not including that criteria -- that criterion could allow mostly feminine boys with very feminine behavior but no transgender identity to be given a GID of children diagnosis when they really never had a transgender identity to begin with.

Q. Isn't it true though that in the DSM-IV, the DSM-IV provided that behavior that nearly does not fit the cultural stereotype should not be given a diagnosis?
A. Well, they said that, but at the same time the criteria listed those behaviors. And when asked -- so I chaired a conference at an APA meeting in 2003 where this was discussed. When asked about how that these -- just these behaviors could be a disorder, they were saying, well -- they preface it that they're strong behaviors, but they're still behaviors. It's not -- it's not including a transgender identity.

And it's evidence that they recognized that that was a problem. When they revised the DSM for DSM-5, they took that into account and they changed the criteria to make the gender dysphoria of children diagnosis to include that A1 criteria, not just as a criteria, but as a -- that that had to be -- was required in addition to other criteria.
Q. Are you aware that the Dutch researchers Annelou de Vries, et al, have found no practical difference in children who were diagnosed using the DSM-IV and the DSM-5?
A. So it's hard to say to me what that means. So whether they said that in a paper that -- oh, you know, I think I know what you're referring to.

Are you referring to the ICD-11 field test study

where they were trying -- they -- it was just this kind of small group of people where they -- they gave it a set of clinical criteria and asked them to make a diagnosis to see if they would concur. It was part of a validity study for ICD-11 gender incongruence that somebody might still have the diagnosis under the different diagnoses. I'm not sure if that's what you're referring to, but there was a study and Anna Louise Debrees was one of the leaders of the validation studies of ICD-11.

So they tried to show that under -- in the small number of people under these -- in these case presentations the people would give a similar rating to these kind of hypothetical cases. That's a very different thing to -- than saying that gender dysphoria -- GID of childhood is the same thing as gender dysphoria of childhood. If they were the same thing, they wouldn't have gone through this years-long process to revise it and tighten up the criteria.

Q. But is it your understanding that the researchers there found there was no practical difference in diagnosing the children?

MS. COOPER: Objection. Confusing.

THE WITNESS: No. I mean, I think you can say, well, there was what was intended not as a comparison of GID of in children and gender dysphoria of children, but

as it was a validation study for gender incongruence in children, and that they found that you could validate gender incongruence in children in that -- in these like vignettes or case presentations someone would -- who would get a GID of children diagnosis and a gender dysphoria of children diagnosis would also get an ICD-11 diagnosis. It Was part of a process to validate ICD-11. It wasn't intended to say that they were the same thing because they obviously --

Q. So let me -- let me ask you this. If -- are you aware of what version of the DSM was used in the early Dutch studies?

A. So the -- the Dutch studies --

Q. It was the DSM-IV, wasn't it?

A. The DSM-IV predominantly. There may have been some DSM-III-R used because the very first use of puberty blockers went back into the '80s. DSM-IV was 1994. So they may have also used DSM-II or DSM-III-R. So prior -- the version before --

Q. So --

A. -- DSM-IV in some of the Dutch studies.

Q. -- if we can't trust research done under -- research done using the DSM-IV, we can't trust those early Dutch studies either, correct?

MS. COOPER: Objection. Mischaracterizing

testimony.

THE WITNESS: I wouldn't draw that conclusion. I think that one can understand that there are -- that there can be weaknesses in some regards, but the -- those weaknesses have to do with prepubertal desistance. When you're talking about persistence of gender dysphoria -- in other words, in adolescents post -- after the start of puberty, that however you diagnosis people, desistance appears to be very uncommon.

BY MR. CANTRELL:

Q. So your testimony is that we can trust research done under the DSM-IV for persistence but not for desistance?

MS. COOPER: Objection. Mischaracterizes testimony.

THE COURT: I'm allowing him to answer it, but if that mischaracterizes what he says, he can let Mr. Cantrell know it.

THE WITNESS: That mischaracterizes what I said. So what I'm saying is, whenever you look at research, you -- you have to look at all kind of factors when that research was done and try to decide what is relevant as a result. Some of that has to do with data that came -- that comes out later. In this case specifically for desistance, that there -- you know, that there was acknowledgement even by the people who were behind the

diagnosis that the criteria needed to be changed because there were too many people kind of taken into studies and given a GID diagnosis in these prior versions, three to four of the DSM, who never had a transgender identity. They largely were pregay boys whose feminine behavior bothered their parents and society and school.

MR. CANTRELL: Your Honor, may I approach?

THE COURT: Sure. Thank you.

BY MR. CANTRELL:

Q. Dr. Karasic, if you would please turn to tab 3 to Defendants' Exhibit 40.

A. Okay. That American Psychological Association 2015.

Q. Yes. You're familiar with the American Psychological Association's guidelines for psychological practice with transgender and gender nonconforming people, correct?

A. I haven't read them, no. I'm a member of the member American Psychiatric Association and participated in our research -- resource document for the other APA in terms of the care of --

THE COURT: Are you familiar with this document that's in front of you?

THE WITNESS: What I would say is, I have some familiarity with it, but you would have to point out a particular part as opposed to ask me right now to comment on it as a whole.

BY MR. CANTRELL:
Q. I'll call these the APA guidelines, just for ease of reference.
A. Can you call it the American Psychological Association guidelines just as a member of the American Psychiatric Association.
Q. We don't have any American Psychiatric Association documents here that.
THE COURT: Just for clarity, just go ahead and say it out loud so we're clear on what we got, APA whatever. It will help me in all the acronyms if we actually say it out loud every now and then.
MR. CANTRELL: So refer to it as American Psychological Association?
THE COURT: Yes, sir, thank you. That will help me.
MR. CANTRELL: Okay. Yes, Your Honor.
BY MR. CANTRELL:
Q. So, Dr. Karasic, are you -- you're aware that the authors of the American Psychological Association guidelines intended for them to be relied upon by those in the mental health professions, correct?
A. I assume that's why they put out guidelines, is that people -- that mental health professionals would use these recommendations, yes.

Q. And, in fact, are the American Psychological guidelines relied upon by those who provide what you might call gender-affirming treatment patients with gender dysphoria?
A. I would assume that some, particularly psychologists, would refer to the American Psychological Association guidelines.
Q. That psychologists?
A. Psychologists, as the American Psychological Association, yes.
Q. Okay. This is a document that you relied on in your expert report in this case, correct?
A. I may have -- I may have cited it. I know I cited another American Psychological Association recommendation that was from a later year, but I may have cited this as well. I'm not dismissing its value. I'm just -- I'm just trying to answer your questions.
Q. Okay. So did I understand you earlier to say that you had never read these guidelines?
A. No. I said I have read them.
Q. You have read them?
A. I was just asking, if you're going ask my opinion about a section of it, to please point the section out because I'm just not as familiar with them as ones, for example, that I worked on.

Q. Okay. If you would turn to Page 843. Let me know when you get there.
A. I'm on Page 843.
Q. Okay. In the right column, the bottom paragraph, somewhere about maybe one-third of the way down, there is a sentence beginning, emphasizing to parents.
A. Okay.
Q. Emphasizing to parents the importance of allowing their child the freedom to return to a gender identity that aligns with sex assigned at birth or another gender identity at any point cannot be overstated, particularly given the research that suggests not all young gender nonconforming children will ultimately express a gender identity different from that assigned at birth.
Did I read that correctly?
A. Yes.
Q. And is that consistent with your understanding?
A. Yeah. I think that's consistent with, like, sentence from some of the Dutch desistance data that because from the data some -- some prepubertal children desist and don't have -- didn't have GID or gender dysphoria in adolescence, that parents should provide flexibility for the child to explore their gender wherever they land, whether they end up having a transgender identity or not.
Q. If you would, turn to Page 862. Let me know when

you're there.
A. 862. I'm sorry. Okay.
Q. Earlier we -- I was asking you about gender identity and the number of gender identities that there are. I'd like you to take a look at the entry, and this is sort of a glossary. The entry for genderqueer.
A. Okay.
Q. So it says, genderqueer: A term to describe a person whose gender identity does not align with a binary understanding of gender (i.e., a person who does not identify fully as either man or woman). People who identify as genderqueer may redefine gender or decline to define themselves as gendered altogether. For example, people who identify as genderqueer may think of themselves as both man and woman (bigender, pangender, adrogyne); neither man nor woman, (genderless, gender neutral, neutrois, agender); moving between genders, (genderfluid) or embodying a third gender.
Again, is that description consistent with your understanding of individuals who identify as transgender?
A. Well, terminology changes quickly, particularly within the transgender community and how people identify themselves. And genderqueer -- this is 2015. Genderqueer was already kind of an aging term in 2015. Even by 2015, nonbinary had really become the dominant descriptive word

instead of genderqueer, but there are still people who use that identification. The -- but the definition is basically about nonbinary people, a term to describe a person whose gender identity does not align with the binary understanding of gender.

I see, for example, in this list there is no definition for nonbinary, and I think it's just -- this is perhaps a little bit of an aging document. Although, as I said, even by 2015, the words people used to describe themselves were becoming more non -- using more nonbinary rather than genderqueer, which I remember as a term from the starting in early 2000s.

Q. I'm sorry. I didn't hear the last part?

A. I remember genderqueer as a term starting in the early 2000s. Even by 2015, I think people tended to use nonbinary rather than genderqueer. This uses this kind of older term.

Q. So if you will turn to the next page, Page 863. And the entry for transgender. Do you see that?

A. Yes.

Q. Transgender: An adjective that is an umbrella term used to describe the full range of people whose gender identity and/or gender role do not conform to what is typically associated with their sex assigned at birth.

Again, is that consistent with your understanding of

that term?
A. Yeah. I think using that umbrella terminology was something that back ten years ago or so you would kind of see that terminology used a little bit more, but I think it's trying to say -- it's trying to encompass a number of different identities within the umbrella of transgender. In SOC-8, they used transgender and gender diverse, with gender diverse being other identities of which some of those people might not identify as transgender, but are exhibiting gender diversity.
Q. Okay. Let me shift gears a little bit here and ask questions on a few different topics.
You're aware that in the country of Finland that the health authorities are moving to emphasize psychotherapy as a treatment for gender dysphoria, correct?
A. Are we kind of going down the same line we did with Sweden?
Q. No. I'm asking you about Finland and --
THE COURT: I think that's his point. Are we going down the same line of questioning that you did for Sweden -- or for Finland for Sweden now?
MR. CANTRELL: No, Your Honor.
THE COURT: I know you're switching countries. He was asking you if you were going down the same line of questioning, different countries.

MR. CANTRELL: I don't intend to introduce any exhibits --

THE COURT: I was just explaining what he was asking because I think y'all were on different pages there. So go ahead.

BY MR. CANTRELL:

Q. Would you like for me to ask the question again?

A. Yes.

Q. So you're aware that in Finland, the health authorities are moving to emphasize psychotherapy as a treatment for gender dysphoria, correct?

A. My understanding from Finland is that they're still providing gender-affirming medical care to adolescents, but -- but advising much caution that, from my understanding of -- because in depositions we've gone through Finnish guidelines as well.

My understanding was that within those guidelines they -- they say that both puberty blockers and gender-affirming hormones can be used, but they -- for severe cases of gender dysphoria. And I think they may be referring more to people meeting the Dutch -- the criteria in the Dutch research studies, but that that -- they were still allowing for gender-affirming medical care, not just psychotherapy as a treatment. I think they were encouraging psychotherapy with gender diverse or

transgendered youth, but they were also allowing for medical care. That's my recollection of the Finnish --

Q. So the country of Finland is now emphasizing psychotherapy, correct?

MS. COOPER: Objection. Mischaracterizes the testimony.

THE WITNESS: If's hard to -- that's why I was kind of comparing with Sweden. I don't know if it's the country of Finland, but some board -- some health board within Finland had recommended psychotherapy I think and a lot of caution, but also said, when really indicated, you can still provide puberty blockers and hormones. That's my recollection of what Finland said.

BY MR. CANTRELL:

Q. Okay. And you've not -- you've not provided treatment to any of the minor plaintiffs in this litigation, correct?

A. I have not.

Q. You've not evaluated any of them?

A. I have not.

Q. And as an expert witness, you are being compensated, correct?

A. Yes.

Q. By whom are you being compensated?

A. I have an agreement with the American Civil Liberties

Union.
Q. Okay. And how much are you being compensated for your testimony?
A. For my testimony today, $3,200.
Q. Just a flat $3,200?
A. Yeah.
Q. Just for today?
A. Yeah, assuming we don't go until tomorrow.
Q. If we do go to tomorrow, will it be a higher sum?
A. I would have to look at the contract, but it says $3,200 for testimony.
Q. It's 3200 per day, correct?
A. It probably is 3200 per day, but I would have to -- I signed the contract a long time ago.
Q. You've never practiced in the State of Arkansas, correct?
A. I have not.
Q. You would agree that just because WPATH or the Endocrine Society Guidelines have certain recommendations, that doesn't tell us in any particular case whether a clinician is following those guidelines, correct?
A. Yes. I mean, I think that's true for any kind of -- for any kind of guidelines. We don't -- we can't be sure that every provider is following those guidelines, but, certainly, they're well-accepted guidelines and they're

followed by people that I've been associated with, including I think a few from Arkansas.

I did a training in Springfield, Missouri, where there was some people from Arkansas. But, generally, I can't speak to the practice of, you know, each clinician in Arkansas.

Q. So you can't speak to the practices of providers of cross-sex hormones across the state of Arkansas, correct?

A. Yeah. I would say that I can only speak to what I feel are the generally-accepted -- generally-accepted treatments that I think most clinicians provide, but I can't tell you whether or not there are individual clinicians who are not practicing within kind of the mainstream of the profession.

Q. And the same would go for mental health professionals across the State of Arkansas; you can't testify to the actual practices of mental health professionals across the state, correct?

A. No. I mean, I assume that mental health is practiced similarly in Arkansas in many respects than in the other 49 states, but beyond that, I can't tell you anything specific to Arkansas.

Q. You're aware that some medical providers in the United States have contravened the WPATH guidelines in performing genital surgeries on minors, correct?

A. Yeah. So I was a coauthor on a paper. We -- my coauthor, Dr. Milrod, and I understood that there had been a few cases of people under 18 who received vaginoplasty. We had not had patients -- I certainly had never had a patient where I recommended vaginoplasty under 18. But we wanted to gather more information about it.

Q. That article was titled, "Age is Just A Number"?

A. Yes.

Q. And it was subtitled, "WPATH-Affiliated Surgeons' Experiences and Attitudes Toward Vaginoplasty in Transgender Females Under 18 Years of Age in the United States"?

A. Yes.

Q. You published that article in 2017, correct?

A. Yes.

Q. It was actually submitted for publication in 2016, correct?

A. Yeah. That's my recollection.

Q. And the WPATH version 7 guidelines were in effect at that time, correct?

A. Yes.

Q. And, again, I think we established that the WPATH version 7 guidelines set a minimum age of 18 for vaginoplasty?

A. Yes.

Q. And I believe you testified you wrote that article in response to reports that vaginoplasties were being performed on minors. Is that right?
A. That --
MS. COOPER: Objection. Mischaracterizes the testimony.
THE COURT: Answer the question.
THE WITNESS: So we were aware this was --
THE COURT: I think that what was stated was that people were going off recommendation of WPATH 7. Specifically, it may have been in that form, but your initial question was whether or not doctors were -- have been rumored to not being in compliance. I guess it's not really in compliance, but not following WPATH 7. We may have discussed specifically whether or not they were doing vaginoplasty prior to age 18.
But, anyway, can you answer the question or can you restate your question?
BY MR. CANTRELL:
Q. I'll restate the question.
You wrote that article in response to reports that vaginoplasties were being performed on minors, correct?
A. Yes, that that was happening rarely we thought because it had not happened on patients that we knew of, but we had -- had heard that there had been minors in the

United States that had surgery. And so we decided to interview all of the surgeons -- at that time there were 21 that we could identify -- who performed vaginoplasty in the United States, and see if that was happening.

So the -- you know, there's the wording of contravening Standards of Care 7's recommendation of 18, but also Standards of Care 7 and 8 say that in individual clinical circumstances, a practitioner might deviate from the standards of care; that ultimately the best care for the patient is what's most important. And so while the standards are -- including age numbers are things that generally should be followed, but there could be exceptions.

So we weren't surprised that there were exceptions. Part of -- we want to both know kind of if the -- if this was happening and, if so, what reasons the surgeon gave that vaginoplasty took place before the age of 18.

Q. So by saying that they contravened the guidelines, you mean that the surgeons went against those guidelines, correct?

A. Yeah. Yes, but I would -- I'd say they went against one part of the guidelines, but there was -- there is another part of the guidelines where they say that they are treatment recommendations, but individual -- in individual clinical circumstances, a provider might not

follow these recommendations when there is careful consideration that is in the best interest of that individual patient.

Q. So is it your testimony today that, in fact, those surgeons did not go against the guidelines?

A. Well, I suppose my testimony is they did and they didn't. They went against the recommendation of 18 as a minimum age, but -- but the guidelines also say that sometimes you can go against the guidelines if it's necessary to provide the best care for patients. That shouldn't be usual care but that there could be exceptional circumstances. And I think it was clear, at least in 2016 and 2017 when we did our research and paper, that vaginoplasty under 18 was kind of an exceptional circumstances, not uncommon -- not usual care.

THE COURT: Doctor, of the doctors you interviewed that were suspected of performing these procedures, were any of them in Arkansas?

THE WITNESS: No.

BY MR. CANTRELL:

Q. Dr. Karasic, you -- in the course of writing this article, you became concerned that some WPATH-affiliated surgeons had performed surgeries unethically, correct?

A. No. We weren't -- we were making a judgment of whether or not there were times when people weren't

following the recommendation of a minimum age of 18, but we weren't saying that to do so was necessarily unethical. The surgeons gave reasons of why they thought it was good care. The surgeons weren't coming out and saying, I was, you know, operating unethically. They were giving reasons of why -- why they might -- for example, one of the reasons that was given was that 17-year-olds are still in the home and under the care of their families; whereas, at 18 they go off to college, and the family wanted -- you know, parents still have to consent for a surgery under the age of 18. And the parents wanted the surgery that was going to happen anyway to happen a little bit earlier so that they were still at home for the recovery period and then they could go off to college post-surgically and not have to deal with that in the middle of, say, their freshman year of college.

Q. So your article reported that a WPATH-affiliated surgeon had performed a vaginoplasty on a minor as young as 15 years old, correct?

A. Yes. That was the youngest that we had a report of.

Q. And you've previously testified that you're skeptical that vaginoplasty could be ethically performed on a 15-year-old, correct?

A. Yes, but I also wouldn't label -- I don't know the circumstances. I wouldn't label that unethical. I just

would say, within my practice, I wouldn't see a circumstance where I would recommend that for a 15-year-old, but I can recognize that other people might have other kind of calculations and -- but that I wasn't privy to.

And I wasn't doing the interviews. It was Dr. Milrod, so I don't know if there was more information that wasn't in the paper to explain the surgery on the 15-year-old.

Q. In the course of writing the article, you learned that there was an increase in the number of minors being referred for vaginoplasty, correct?

A. At that time, it was 2016. And in 2013 and 2014 is when insurance started covering vaginoplasty more generally in the US. And so it was a time where there was an increase because more people could afford to get it and there were new surgeons who were entering practice at that time. And so -- so it was a time, whether people were minors or not, where more people were getting -- had access to vaginoplasty.

Q. There are more vaginoplasties being performed today than there were in 2016, correct?

A. Yes. I would believe that to be true.

Q. Also in the course of writing that article, you became aware of a polarization of long-term practitioners

against newer surgeons --
A. Yes.
Q. -- performing vaginoplasties, correct?
A. Yes. There were a set of -- remember, 2016 there were only 21 surgeons in the entire United States that we could identify performed vaginoplasty and were WPATH members, and -- but also at that time, there were the first surgical fellowship programs being set up. In the same places where people got trained in plastic surgery and hand surgery and facial surgery, people were starting to get trained in gender-affirming surgery. And there were other, you know, people who didn't go to those fellowships who were entering practice. And there was this suspicion from the old practitioners, the people who had been doing -- performing vaginoplasties for years and year, there was suspicion about new people who were entering the field.
Q. That suspicion was that the newer surgeons were motivated by profit, correct?
A. That was expressed by at least one surgeon, kind of expressed a lot of negative views about people coming into the field versus those who had been doing it for years and years, that some people were coming into the field now that there was insurance compensation.
MR. CANTRELL: Your Honor, if I can have a

moment.
BY MR. CANTRELL:
Q. Dr. Karasic, the Court asked you a question concerning the -- whether any of the surgeons that performed these vaginoplasties we've been discussing were in Arkansas. And I just want to follow up on that by asking, are you at all aware of whether or not any of the patients who underwent the vaginoplasties were from Arkansas?
A. So the interview was not with patients. It was with surgeons. So we did not -- we did not have a -- it was a like semi-structured interview, a qualitative interview, but there was no question about the state of origin of the patients.
Q. Would you be aware of the state of origin of the physicians, potentially an Arkansas physician traveling to do a surgery outside the state?
A. Well, there were only 21 surgeons, so we -- you know, we knew who they were and where they practiced. And I'm quite sure none of them practiced in -- practiced in Arkansas. I'm not sure if your question goes beyond that, if any of them were licensed in Arkansas or if that -- I couldn't tell you.
Q. Let me just ask this. Well, I guess I will follow up on that.

Are you aware if any of those surgeons were licensed in Arkansas?

THE COURT: I think he just said he wasn't.

THE WITNESS: I'm not aware of, right, if any of them were. They weren't practicing in Arkansas, but doctors can have licenses in multiple states potentially.

BY MR. CANTRELL:

Q. Are you aware of how many WPATH-affiliated surgeons there are today?

A. No. I couldn't give you a number, but I'm sure it's -- that it's substantially higher than in 2016 because since then we've had these fellowship programs where, just like surgeons who have already done a plastic surgery or urology fellowship and then they do an additional hand fellowship or, you know, some other subspecialty. Now surgeons can do at some centers gender-affirming surgery fellowship and get training, something that wasn't available before.

MR. CANTRELL: Nothing further at this time, Your Honor.

THE COURT: Redirect of this witness.

MS. COOPER: No redirect, Your Honor.

THE COURT: You needn't refer to your contract about tomorrow.

THE WITNESS: I don't get the other 3200

apparently.

THE COURT: We're going to break until about 4:30 to give Valarie's hands a break.

Court will be in recess until 4:30.

(A recess was taken at 4:17 p.m.)

* * * * *

REPORTER'S CERTIFICATE

I, Valarie D. Flora, FCRR, TX-CSR, AR-CCR, certify that the foregoing is a correct transcript of proceedings in the above-entitled matter.

Dated this the 24th day of October, 2022.

/s/ Valarie D. Flora, FCRR

United States Court Reporter

(Proceedings continuing at 4:39 p.m.)

THE COURT: Next.

MR. STRANGIO: Thank you, Your Honor. Plaintiffs are going to call Dr. Deanna Adkins. I believe someone went to get her.

THE COURT: Okay.

DEANNA ADKINS, M.D., PLAINTIFFS' WITNESS, DULY SWORN

MR. STRANGIO: For the court reporter, I'm Chase Strangio from the ACLU.

DIRECT EXAMINATION

BY MR. STRANGIO:

Q. So good afternoon, Dr. Adkins. Thank you for being here. Thank you for your patience. Can you please state your name for the record and spell it for the court reporter.

A. Deanna Adkins. It's D-e-a-n-n-a, and last name is A-d-k-i-n-s.

Q. And what is your profession?

A. I'm a pediatric endocrinologist.

MR. STRANGIO: And, Your Honor, Dr. Adkins' CV is Plaintiffs' Stipulated Exhibit 3. So to spare everyone going through her extensive qualifications, I'm going to leave it at that for now.

THE COURT: Okay.

BY MR. STRANGIO:

Q. And how long have you been a pediatric endocrinologist?

A. Twenty-two years.
Q. And how many patients with gender dysphoria do you currently treat as a pediatric endocrinologist?
A. Currently I have approximately 400 patients.
Q. And how many adolescent patients with gender dysphoria have you treated in your career?
A. About 600.
Q. And how many patients with differences of sex development or intersex conditions have you treated in your career?
A. Over a hundred.
Q. And just in your general pediatric endocrinology practice, how many patients as a pediatric endocrinologist have you treated in your career?
A. Thousands.
Q. Have you taught any courses on the treatment of patients with gender dysphoria?
A. Yes, I have.
Q. And where have you taught those courses?
A. In a number of locations. At Arkansas Children's I did some teaching. I've done some teaching at University of Tennessee, at Mount Sinai, at UNC, Duke ECU.
Q. Thank you. I'm going to ask you some questions about the treatment of gender dysphoria in your capacity as a pediatric endocrinologist. What conditions do you treat at the Duke Gender Clinic, where you work?

A. At the gender clinic we take care of kids with -- children with intersex disorders and people with gender dysphoria.
Q. And are there endocrine treatments that are used to alleviate distress caused by gender dysphoria?
A. Yes.
Q. And what are those treatments?
A. For younger kids who have just begun puberty, we might use medications to pause their puberty if they are suffering from dysphoria caused by those pubertal changes. We also use hormones to more align their bodies with their gender identity, including testosterone, estrogen, progesterone and androgen blockers like spironolactone.
Q. And those treatments that you have just mentioned, are they used to treat adolescents with gender dysphoria?
A. Yes.
Q. What is the goal of endocrine treatments for gender dysphoria?
A. Well, the primary thing is to alleviate the dysphoria and doing that by aligning their bodies more with their gender identity to alleviate that distress.
Q. And when treating patients with gender dysphoria, do you follow any guidelines?
A. Yes.
Q. And which guidelines do you follow?
A. The Endocrine Society Guidelines as well as the WPATH

Standards of Care.
Q. And in your experience is the Endocrine Society Guidelines widely used by endocrinologists who treat patients with gender dysphoria?
A. Yes.
Q. And how do you know that?
A. We talk about them at meetings. We communicate with each other on LISTSERVs. There are, you know, presentations at meetings as well.
Q. And in your practice as a pediatric endocrinologist, how does the Endocrine Society Guideline on the treatment of gender dysphoria compare to other guidelines that you use in your practice?
A. They are very similar. You know, the Endocrine Society has a number of guidelines we use, and they are all very similarly written.
Q. And in your experience are the WPATH Standards of Care widely used by endocrinologists who treat patients with gender dysphoria?
A. Yes.
Q. I want to ask you some questions about the protocols for initiating these treatments we have been discussing. So under the Endocrine Society and WPATH guidelines, are any endocrine treatments recommended for patients to treat gender dysphoria prior to puberty?

A. No. There are no treatments that are endocrine prior to puberty.
Q. And at the Duke Gender Clinic, where you work, how do you assess whether endocrine treatments for gender dysphoria are appropriate?
A. Well, we have a really robust process. I have my own team of mental health providers that do an assessment with the family, the parents, separate from the children. And then I do an assessment myself of their past medical history and their family history and their physical exam. There is also an assessment prior to coming to our clinic by a mental health provider separate from our clinic as well.
Q. And you mentioned a mental health assessment as part of your clinic. What is that mental health assessment?
A. It starts with the basics of, you know, past mental health issues, if there are any; the dynamics within the family, how things are going in school, educational issues, if there are any; as well as some standard assessments that they use for anxiety, depression, gender dysphoria, eating disturbance and autism.
Q. And when undergoing this -- excuse me. When assessing a patient, does the clinic explore a patient's co-occurring mental health conditions?
A. Yes.
Q. And why is that?

A. It's very important to know if any of those issues are going to keep the patient from being able to follow along properly with their medical treatment or if there is any concern that there is another cause for what's going on with the patient.
Q. And, as part of that assessment, do the providers explore whether the patient has had a history of trauma?
A. Yes.
Q. And in the process of these assessments, are patients and their families steered toward any particular course of treatment?
A. No. You know, we are just there to hear what they have to say and help them answer questions about what they would like to do.
Q. And are all patients you see prescribed endocrine treatments for gender dysphoria?
A. No.
Q. Is it an individualized assessment for each patient?
A. Yes. Every patient has a very particular individualized care plan.
Q. And you have described your assessment process at Duke. Is this practice consistent with Endocrine Society Guidelines and the WPATH Standards of Care?
A. Yes, it is.
Q. And in your practice as the director of the Duke Gender

Clinic, are you aware of how other clinicians around the country conduct their practice?
A. Yes. We talk about it, like I said, at our meetings. We also discuss it on LISTSERVs. We also collaborate with databases at multicenter studies, so we are all aware of what we're all doing.
Q. And is the assessment process you've just discussed at Duke consistent with your understanding of what other providers do around the United States?
A. Yes.
Q. And when prescribing medications for your adolescent patients with gender dysphoria, do you discuss the potential risks and side effects of these treatments?
A. Yes.
Q. And who is involved in that discussion?
A. So we talk with the patient as well as their parent or guardian.
Q. And in that process, do you ensure that the adolescent patient and their parents are able to understand the risks and benefits of treatment?
MR. JACOBS: Objection. Leading.
THE COURT: Kind of. Do a better job.
But go ahead and answer the question, Doctor.
THE WITNESS: So we are -- I'm trying to think of the question now. I got sidetracked. We are very careful about

going through all of the effects and side effects. We do it with a written method. We do it with a verbal method. We also ask them what their preferred learning style is and try to do it in that way. That's a pretty standard thing in pediatrics. Actually all of our nurses standardly ask all of my patients, "What is your favorite learning style? Do you want to hear it? Do you want to see it? Do you want to touch it?" And so the family is allowed to read through, answer those questions. If we feel that there's something else that they need, then we also have visual presentations. And at the end, I also ask them, you know, how do you understand this? Tell me what you have heard today. And it's called a teach-back technique, which we use with a lot of our other, you know, skills that we're teaching patients.

BY MR. STRANGIO:

Q. And is this process consistent with the guidelines of the Endocrine Society and WPATH?

A. Yes.

Q. And based on your knowledge of other clinics, how does this process compare to the practices of other gender clinics in the United States?

A. It is consistent.

Q. So earlier we were talking about the particular endocrine treatments for adolescents with gender dysphoria. Can you just again tell us specifically what those treatments are?

A. Yes. First there are medications called GnRH analogs. That is sometimes called a puberty blocker. Those are medications that mimic the signal from the hypothalamus to the pituitary and sit in the pituitary on the receptor so that no signals can come through, so the pituitary can't tell the ovaries or the testicles to be active. That medication is used to pause puberty and is completely reversible once that medication is stopped.

We also use androgen blockers. Spironolactone is the primary one we use. It's a medication that was originally designed for blood pressure and heart failure, but it actually blocks the effects of the androgens as well as lowers the androgen levels. We use testosterone, which is male hormone, to enhance the masculine effects of our trans masculine patients. And then we use estrogen in our trans feminine patients to, again, increase their more feminine features.

Q. And do you personally prescribe all of these medications to patients?

A. Yes.

Q. And you prescribe these medications to your adolescent patients with gender dysphoria?

A. Yes.

Q. And do you prescribe these medications to patients with other conditions?

A. Yes.

Q. And how many adolescent patients have you treated with pubertal suppression for gender dysphoria in your career?
A. With gender dysphoria?
Q. Yes. Sorry. How many adolescent patients have you treated with puberty suppression for gender dysphoria in your career?
A. Only about 12.
Q. And how many adolescent patients have you treated with the other various cross-sex hormone therapies for gender dysphoria that you've mentioned in your career?
A. About 600.
Q. I want to ask about sort of a little more about each of these treatments, starting with the puberty blockers. What conditions are puberty blockers used to treat?
A. So GnRH analogs are used for precocious puberty, a puberty that starts too early. It's also used for gender dysphoria. It is used to treat endometriosis. It's used to treat hormone-sensitive cancers like prostate cancer and sometimes breast cancer.
Q. And you mentioned -- excuse me. You testified that you have used puberty blockers to treat gender dysphoria?
A. Yes.
Q. And have you used puberty blockers to treat central precocious puberty?
A. Yes.
Q. And how many patients with central precocious puberty have

you treated with puberty blockers in your career?
A. Over a hundred.
Q. And how are puberty blockers used specifically in patients with gender dysphoria?
A. So once a person gets to the second stage of puberty, first being no puberty at all, the very first signs would be Tanner II. Then III, IV and V are the full range of Tanner stages. So once they have seen some pubertal changes, we find, if they have distress from those pubertal changes, we will pause their puberty and use that medication to allow them some time to get a better understanding of their gender identity if there is a question, also to relieve the distress of the incongruence of their body to their gender identity. And we typically would use that in a time frame that's most consistent with, you know, keeping them within the normal pubertal time frame.
Q. And are there potential side effects of puberty blockers?
A. Yes.
Q. What are some of the potential side effects of puberty blockers?
A. So the most common one I see actually is a little bit of weight gain, so we do some counseling around that and keeping active and working with nutrition, but it's not that common. Then the second thing is that their growth rate slows down to the same rate that it was prior to starting the puberty, because puberty is a time of rapid linear growth. And before that, they

are growing at about 2-inches a year, and then then can grow 3 to 4 inches a year during puberty, so we're just back at the 2 inches a year. Then we also slow down their accumulation of calcium because there's a calcium-like growth spurt at the same time during puberty where you are loading up your bones. And those patients go back to the prepubertal rate, which is a little slower, until they have puberty, when all of that is regained and starts back up again.

Q. And the slowing of the growth rate and the slowing of this calcium accrual that is happening, is that an expected effect of the medication?

A. Yes.

Q. And among these side effects, do any remain when the patient's pubertal suppression is discontinued?

A. So if it's just stopped and no other medications are being used, then none of those continue. Puberty restarts and everything catches back up.

Q. And do these side effects that you've mentioned of puberty suppression or puberty blockers differ based on the condition that you are treating?

A. No.

Q. And how often do you observe side effects in your patients treated with puberty blockers?

A. I see the weight gain some, but not a lot. And, you know, we always see the slowdown in growth because that's an expected

effect and not really a side effect. I really don't see many side effects at all.
Q. And has the FDA flagged any potential new side effects of -- potential side effects related to puberty blockers?
A. Yes. There is recent notification that there has been an association between use of these medicines and increased intracranial pressure.
Q. And is that potential side effect or association, as you said, unique to a particular indication treated with puberty blockers?
A. No. Most of the patients who experienced it had central precocious puberty, but one did who had gender dysphoria.
Q. And has that particular association been identified in many patients?
A. Only about six.
Q. And have you personally observed that side effect in your clinical practice?
A. No.
Q. Have you changed your practice at all as a result of the recent notice from the FDA?
A. Well, I did add that particular potential side effect to our consent form, but I haven't changed anything else other than, you know, making sure that parents are aware when we walk through all of that too.
Q. And is that in your consent form -- and which consent form

is that?
A. It's the one that we use anytime we're using a GnRH medication for either central puberty or for gender dysphoria.
Q. Is it common for the FDA to publish notices of new data concerning potential side effects of medication?
A. Yes.
Q. And, generally speaking, when you obtain consent for treatment with puberty blockers, is the process different when treating a patient for gender dysphoria versus treating a patient for central precocious puberty?
A. So we're, you know, very careful with both of them. We do talk about, at the beginning, with our patients with gender dysphoria, that if they do continue using this medication and continue it after the time in which they are put on hormones, gender-affirming hormones, that there is a potential that they may not be able to have their own biological children, and they may not be fertile. And we talk about the ways to mitigate that either by waiting later to start the medication or stopping the medication and allowing them to go through puberty later before adding on the gender-affirming hormones.
Q. And you mentioned this counseling about fertility. Do puberty blockers on their own affect fertility?
A. During the time that you are on them, your testicles and ovaries aren't continuing to develop. So during that time, you wouldn't be fertile. But after coming off of those medications,

that fertility returns completely.
Q. And you also mentioned this delayed bone mineralization as an effect of treatment with pubertal suppression. Can you explain how bone density is affected by treatment with pubertal suppression?
A. So using the medication to pause puberty really puts you just basically in the same state that you were in before, so the same things that were happening to you as a child without puberty are still happening. You are still growing. You are still gaining calcium. You are still developing your brain and your skills, and the calcium part of it is just at the same rate as before. And then, once you stop that medication, that calcium accrual increases.
Q. And what happens to this bone mineralization or calcium accrual once puberty is initiated?
A. Once puberty is initiated, the calcium picks back up and is stored in the bones at the pubertal rate that it would have been for their puberty whether it had been suppressed or not. And down the road, those kids are having good bone mineral density, and they aren't having any fractures.
Q. And that bone accrual -- so that bone accrual happens when puberty begins from endogenous hormones?
A. Yes.
Q. And does that bone mineralization happen when puberty begins from gender-affirming hormones?

A. Yes.
Q. And generally how long, once a hormonal puberty is initiated, does one's bone density reach a normal range?
A. Well, the data that we have, and in my clinical practice, we see that happen about two to three years after they are on either gender-affirming hormones or go through their own puberty.
Q. And in the event that someone does not regain full bone density, what are some reasons that might be?
A. What I have seen is it tends to be the patients who had low bone density to start with, that they typically had risk factors for that to begin with. And those include things like a family history of osteoporosis or low vitamin D status or low physical activity, as physical activity actually stimulates, you know, calcium being accrued in the bones, or poor nutritional status. And that could be low weight for any reason, either poor eating habits or poor absorption from an inflammatory disease or other things.
Q. On average, for how many years do you keep patients with gender dysphoria on pubertal suppression before puberty is initiated?
A. Our goal is to keep them within the normal pubertal range, so it's not very long, anywhere from three years or so, maybe four.
Q. And on average, for how many years do you keep patients

with precocious puberty on pubertal suppression before puberty is initiated?
A. That can vary a lot depending on how early they start puberty. There's some kids who start into puberty precociously at like two or three, and they would be on until they are 11. So, you know, that's, what, nine years or so. The majority of them are starting at around four or five until about 11.
Q. Dr. Levine, one of defendants' experts, has said that there are psychosocial effects to the administration of puberty blockers because they keep young teens in a childlike physical prepubertal state while their peers are undergoing puberty. Do you have a response to that?
A. Well, you know, there's a really wide range of normal puberty in kids. So, you know, normal could be in assigned females at birth anywhere from eight to 14 for the start and then even 15, 16, 17 for the end of it. For kids who are -- those who are assigned male at birth, it can be anywhere from nine to, you know, 14 to start and 17, 18, 19, 20 before they finish. And, you know, our treatments are designed to keep those kids within the normal framework of puberty and to match their peers as much as we can.
Q. Dr. Hruz, another one of defendants' experts, claims that there are cognitive and executive functioning risks associated with pubertal suppression. Do you have a response to that?
A. I haven't seen any issues with our patients having delay in

their cognitive development or their executive function. The data that's available doesn't show that that's occurring. We see, you know, kids who have delayed puberty who are still learning just fine and going to school, and they are making all As even though they are not in puberty and they might be a little late. So I would disagree with that.

Q. And does every person naturally undergo a hormonal puberty?

A. No.

Q. And what conditions may prevent someone from undergoing a hormonal puberty?

A. So there are cancer treatments that can cause people to have damage to their ovaries or testicles. There are autoimmune diseases that can cause that damage. There's brain tumors that can cause the signal to those ovaries and testicles not to work. There's congenital things like Turner syndrome, and Klinefelter sometimes may have a pause and not a complete puberty.

Q. In patients with those various conditions, have you seen cognitive impairments?

A. I haven't. In fact, I've had patients who went to law school and got their Ph.D., friends that are physicians with all of those different conditions.

Q. And are puberties [sic] safe in your opinion when used to treat central precocious puberty?

A. Yes.

Q. And are puberty blockers safe when used to treat gender

dysphoria?
A. Yes.
Q. I want to talk a little more about the gender-affirming hormones that you mentioned. I'm going to start with each of these medications in turn, and hopefully I've remembered them all correctly. I'm going to ask you -- sorry. Let me back up. Are all of the endocrine treatments -- are the endocrine treatments that you use to treat gender dysphoria used to treat other conditions?
A. Yes.
Q. Now I want to ask a little bit about each of them in turn. Other than gender dysphoria, what conditions do you treat with testosterone?
A. Delayed puberty, micropenis, hypogonadism, which I mentioned where the pituitary doesn't work, and if you had a cancer. That would be the main ones.
Q. And do you prescribe testosterone for any of these conditions to people assigned male at birth?
A. Yes.
Q. And what other conditions do you treat with testosterone suppression?
A. So polycystic ovary syndrome is one of the primary ones or PCOS. And if you have hirsutism for a reason other than PCOS and acne.
Q. Do you prescribe testosterone suppression for people

assigned female at birth?
A. Yes.
Q. What other conditions do you treat with estrogen?
A. Turner Syndrome is probably the most common thing that I treat with estrogen, also any of the conditions I mentioned before, like delayed puberty or if you've had cancer of some sort and you can't make your own estrogen. I think those are the big ones.
Q. And do you prescribe estrogen to people assigned female at birth?
A. Yes.
Q. What other conditions do you treat with progesterone?
A. Progesterone I use to manage heavy bleeding in people who have periods that are either irregular or very heavy, and then it has been used to actually treat early puberty. I don't use it that often for that. And I think those are the main ones outside of gender dysphoria.
Q. And why are these gender-affirming hormones used to treat gender dysphoria?
A. The hormones allow the body to align with the gender identity and relieve that distress and relieve that incongruence of those two things and allow for a decrease in anxiety and depression and the other associated challenges that our patients have.
Q. And when you prescribe testosterone to transgender boys,

are there physiological changes that happen as a result?
A. Yes.
Q. And what are those physiological changes?
A. So we can see desired effects that are, you know, facial hair, voice change, body hair, increased muscularization, ability to build muscle, decrease in fat mass or shifts in the fat mass locations, so more in the central area, not in the chest or hips. And those are the primary ones that we see that are the -- well and stopping their menstrual cycles as well. Those are the most desired ones.
Q. Are there physiological effects of estrogen and testosterone suppression when prescribed for transgender girls?
A. Yes. The desired effects are generally less facial hair or slowing down of facial hair growth, less acne, less hair loss, like male pattern hair loss. That stops. We also get skin softening, breast development, shifts in body fat. So it's distributed more to the chest and the hips. Those are the main ones that we're looking for.
Q. And are there potential side effects of the testosterone treatment used to treat transgender boys with gender dysphoria?
A. Yes.
Q. And what are some of those side effects?
A. So some of the things that we are watching out for that are not desired effects are potentially -- not a lot of them are excited if they have male pattern baldness. Some of them are.

There is acne, which can happen. We also see sometimes a shift in their blood findings, in particular cholesterol and hemoglobin to a more masculine pattern, similar to what we would see in a brother, say, in their family, which would be, you know, more total cholesterol, slightly more LDL and then lower HDL. The amount, the thickness of the blood, or the hemoglobin or hematocrit can go up. That's a function of testosterone. We're not seeing that go into ranges that are outside of the male normals. We're not seeing any consequences of that, but we watch for that. There has been a history of liver dysfunction with testosterone that was given orally in the past, but the formulations of testosterone we use now don't have those effects. But we certainly keep our eyes open for that.

And then, because they are not having periods, they may or may not be infertile. There are times when patients have inadvertently gotten pregnant while on testosterone, because it's not a reliable -- it doesn't reliably block ovulation. So, you know, we walk through, if you don't want to be pregnant, then you need to use another method, or, if you do want to be pregnant, then we need to pause your testosterone for a while.

Q. And related to the fertility, does testosterone treatment in adolescents with gender dysphoria potentially affect fertility?

A. Yes.

Q. And in what ways?

A. You know, it can cause irregular ovulation, and it can cause, you know, them to stop having their periods. And those are the primary ones.
Q. And other than the fertility that you just discussed, are these potential side effects of testosterone treatments comparable when used to treat gender dysphoria and when used to treat other conditions?
A. Yes. We see the same effects with the exception of the effects on the ovary and the testicle.
Q. And are there any side effects to testosterone suppression?
A. So the medication we use for testosterone suppression is spironolactone. It was designed as a medication for heart failure and high blood pressure, so it actually causes you to pee a lot more. It's a diuretic. So we talk about increasing hydration. And that effect actually wears off after a little bit. It can cause an increase in potassium levels, salt in the blood. So we check that very carefully every time the patient comes in and talk about what those symptoms might look like so they can call, and we can get those checked if they are seeing any of those. And then you can see -- I was trying to think. Those are the main ones we watch out for with that.
Q. Are these side effects that you've mentioned comparable when used to treat other conditions with the testosterone suppression?
A. Yes.

Q. And are there potential side effects of estrogen?
A. Yes.
Q. And what are some of those?
A. So the one that we are kind of keeping an eye out for the most is blood clots. And that can be a stroke or a clot somewhere else in the body. The, you know, newer estrogen medications have a much better profile and a lower risk of blood clots. You know, we talk with the patients about avoiding any other triggers, one being taking too much estrogen, because that was the most common reason that blood clots had been seen in transgender patients. Two, you know, we monitor that and check their levels and talk with them about it, you know. Avoid smoking. Stay a healthy weight. We work with them for exercise and nutrition with physical therapy if we need to and smoking cessation treatments if we need to. So that is the first one we watch out for.

And then, other than that, you know, liver dysfunction, again, if you are taking the medications unmonitored at higher levels. We're not really seeing that in the newer forms of estrogen in the normal physiologic female range. We watch for lower hemoglobin levels, and that is not really coming up in our patients. They may go into the upper end of the female range, which would flag in our computer system, but they are not symptomatic of anemia, not having any issues with it. And they are -- you know, they are not technically anemic.

What else do we watch for? The prolactin can go up. Naturally your body, when you have higher levels of estrogen, stimulates prolactin. Prolactin is a hormone that allows you to breastfeed babies. I haven't had any patients who have had that issue. There are some case reports, a handful of them, but we definitely follow that and make sure that our patients are aware that if they have any leakage of their breasts that they need to notify us right away. But, again, that is really rare.

Q. Can estrogen affect fertility in patients treated for gender dysphoria?

A. Yes. Estrogen can lower sperm counts and can change the motility of the sperm as well.

Q. And, other than fertility, are these potential side effects that you've mentioned from estrogen comparable for all the conditions that you treat with estrogen?

A. Yes.

Q. And are there potential side effects or risks of progesterone?

A. Yeah. For progesterone we're looking for -- occasionally we see some mood changes, so we talk with them about if there's any change in your mood to let us know. I'm not seeing that. Most of my patients are very excited to not have a period, so they are actually in a really good mood. There is some weight gain, and that's really it.

Q. Are these potential side effects comparable for all the

conditions that you treat with progesterone?
A. Yes.
Q. Do you discuss these potential side effects with patients and their families?
A. Yes.
Q. And do you monitor for these potential side effects in your patients?
A. Yes, we do. I counsel about ways to, you know, avoid any of the side effects. And, you know, specifically for the fertility, too, we offer counseling with our reproductive endocrinologist for preservation of sperm or eggs if they would like to.
Q. And are there things that you can do to minimize the risk of any of these side effects for your patients?
A. The biggest thing is continuing to be seen in our clinic and have their levels monitored and take their medication as directed. And then also, you know, for all of us, maintaining a healthy weight is going to reduce all of these things, you know. Just in the general population, you are less likely to have a stroke or a heart attack if you are a healthy weight and a healthy blood pressure, and then avoid smoking as well.
Q. And this counseling and monitoring that you've discussed, is that consistent with the Endocrine Society Guideline?
A. Yes.
Q. And some of the potential side effects that you mentioned

sound potentially serious like blood clots with respect to estrogen. Are these common side effects of treatment?
A. They are very rare.
Q. And would you have concerns about the potential risks of these endocrine treatments if the patients were not monitored by a doctor?
A. Yeah. That's where most of them that have been reported have occurred, when medications were used in excess in an unmonitored atmosphere.
Q. And in your clinical experience, how often are you generally observing side effects in your patients being treated for gender dysphoria?
A. I'm rarely seeing any side effects. The hemoglobin going up is probably the most common one I see. Again, we're not seeing any problems with that long term.
Q. What is the hemoglobin going up?
A. I'm sorry. The increased thickness of the blood.
Q. And that is in transgender boys treated with testosterone?
A. Yes.
Q. And is there increased thickness of their blood increasing beyond the typical male range, or can you explain a little more?
A. Sure. No. What we're seeing is it does go typically into the normal male range. I'm not seeing patients' hemoglobin levels go higher than that. You know, things -- times when that can happen naturally are if you are dehydrated, so we also talk

about making sure you are well hydrated to avoid that particular side effect.
Q. And just to summarize, do the gender-affirming hormone therapies that you use to treat gender dysphoria in your patients carry comparable side effects as when used to treat other conditions?
A. Yes. They are comparable, with the exception of the fertility that we discussed.
Q. And is testosterone safe when used to treat gender dysphoria?
A. Yes.
Q. Is estrogen safe when used to treat gender dysphoria?
A. Yes.
Q. Is testosterone suppression safe when used to treat gender dysphoria?
A. Yes.
Q. Is progesterone safe when used to treat gender dysphoria?
A. Yes.
Q. I want to ask you just a few more questions about fertility that we have been discussing. Are there pediatric treatments that you provide that can affect or that can have the effect of impairing fertility?
A. Yes. The cancer treatments are a common treatment that cause infertility in children.
Q. And do puberty blockers on their own impair fertility?

A. No.
Q. And does hormone therapy, testosterone for trans boys and estrogen and testosterone suppression for trans girls, on its own impair fertility?
A. So we're not seeing anything with regard to impaired fertility for our trans masculine patients from testosterone. More recent, like more recently, we're seeing folks choose to come off testosterone and have the same ability to get pregnant as those who have not been on testosterone. With regard to estrogen, some newer studies are showing that once you've been off estrogen for about 12 weeks a return of fertility is happening for our trans feminine patients in a large portion of the patients, so, you know, all good news.
Q. And just so I understand this, if someone goes off of testosterone or estrogen after getting treatment for some time, you know, sort of how does it affect their fertility in the permanent sense?
A. For some there is potentially a permanent effect, but we're not seeing that for a lot of our patients. Actually we're seeing they are fertile once they come off these medications.
THE COURT: I was waiting for it. Early on in your testimony you indicated that the primary irreversible issue about fertility was when you were combining puberty blockers with hormone treatment. If I misspoke, correct me. Since we're only dealing about minor treatment for gender dysphoria, is

there ever a situation where you are not combining the two in your treatment of dysphoria?

THE WITNESS: So we have about 12 patients where that would be combined. The other 600 --

THE COURT: All minors?

THE WITNESS: -- are not using any puberty blockers.

THE COURT: I guess what I'm saying is, of all your patients, I'm talking about just the minor patients.

THE WITNESS: They are all minors.

THE COURT: Okay. Fair enough. So it's only the combination that -- I don't want to say always -- but most of the time affects fertility. You've just told me what can happen within 12 weeks on estrogen and generally or immediately with testosterone only and what you've told me about puberty blockers only. Tell me again what subset of your patients is on both.

THE WITNESS: So I've only used puberty blockers in about 12 patients. Not all of them have gone on to add gender-affirming hormones. Some have come off and gone through their natural puberty. So the combination -- some are just still paused right now, right? So the combination of the two, maybe only four or five.

THE COURT: Out of a population of --

THE WITNESS: 600.

THE COURT: Thank you.

BY MR. STRANGIO:

Q. Just to follow up on that line of questioning, why is it that you have such a small number of patients that have gone from puberty blockers to hormone therapy?
A. You know, there are not as many patients who, you know, have sort of figured out that their gender identity is a transgender identity at that point in time. Puberty is a normal time for people to start to understand their gender identity and consolidate that, so many of them aren't really sort of at the point where they really are having enough dysphoria for that to be needed until after puberty has already kind of gotten further along.
Q. So returning to the questions about these medications in combination, what happens with a patient's fertility when they go from pubertal suppression to the gender-affirming hormone therapy?
A. I'm sorry. Could you repeat the question?
Q. Yeah. That was a terrible question. So with respect -- how is fertility affected for patients who go from pubertal suppression to gender-affirming hormone therapy?
A. So, you know, it can vary. If you are stopping a kid at that very early stage that I mentioned, Tanner II or V, the ovaries and testicles are still very immature and aren't able to make functional sperm or eggs yet. So if you pause there and go directly on the gender-affirming hormones, those will not advance in their stages and produce those sperm or eggs. If you

wait until they are Tanner III or further along, at the time when kids are making sperm and eggs but haven't completed puberty yet, then they may not have that problem when you add the gender-affirming hormones to them.

Q. And do you counsel patients and their parents about this potential impact on fertility?

A. Yes. We counsel them at the very beginning when they start gender-affirming hormones, and we counsel them again when we add the puberty blockers. And then we counsel them again when we add gender-affirming hormones very carefully, because at that point they could stop the medication and gain full fertility if they just stopped the puberty blockers. And they have had time to kind of think that through, and parents have had time to process as well.

Q. For patients who are concerned about the potential impact on fertility, are there options for fertility preservation?

A. The main option for people on puberty blockers would be to go off of them and go through their own puberty and allow those ovaries and testicles to fully mature. You know, other options for other people who have infertility would work as well, so, you know, if they were to have a surrogate, a donor or those sorts of things.

Q. And is your process for counseling patients that you've just discussed, is that consistent with the protocols from the Endocrine Society and WPATH?

A. Yes.
Q. And are these discussions similar to the discussions you have with the, for example, cancer patients that you discussed who may have impaired fertility from treatments?
A. Yes. We are definitely counseling them about options.
Q. And just shifting gears a bit, in your practice do you discuss sexual health and satisfaction with your patients?
A. Yes.
Q. And in your experience, treating adolescents with gender dysphoria, how do endocrine treatments for gender dysphoria generally affect sexual satisfaction?
A. For testosterone, in my trans masculine patients it enhances libido and interest in sex and actually improves their sexual satisfaction, not just from the direct hormonal effects in the, you know, reproductive tract but also in the alignment of their body with their gender identity. And that alignment allows them to feel more comfortable in their body. And when you are comfortable in your body, you are much more likely to be able to enjoy the sexual activity.
Q. And is that true for both your trans masculine and your trans feminine patients?
A. So for trans feminine patients, the alignment part is absolutely true. They definitely are much more confident and much more interested in thinking about partners and those sorts of things when their body matches their gender identity. The

suppression of the androgens can sometimes lead to difficulty with arousal and those sorts of things, and so I talk with my patients about, you know, titrating their medication so that they are able to have appropriate sexual function that they would like to have.

Q. And the defendants' experts claim that gender-affirming treatment generally impairs sexual function and the ability to orgasm, so I want to ask some specific questions about that with respect to each of the medications. Starting with puberty blockers, does this medication on its own impair a patient's sexual function?

A. So at the time that you are on those medications, you are paused wherever you were in that pubertal advancement, so you don't normally see erections or -- well, you see erections, but you don't necessarily see orgasm until later on in puberty for the trans feminine patients. For the trans masculine patients, there's no effect with regard while you are on GnRH.

Q. For this particular side effect, with respect to the trans feminine patients, does it last beyond the duration of the treatment with puberty blockers?

A. If you come off of them and you are allowed to advance in your own puberty, we don't see that problem. Everything recovers as it would if you had just gone straight through your natal puberty for the trans feminine patients.

Q. Going to just hormone therapy, does hormone therapy, so

estrogen and testosterone suppression for trans girls and testosterone for trans boys --

THE COURT: Slow down a little. Start over.

BY MR. STRANGIO:

Q. And just on the hormone therapy, does hormone therapy, specifically estrogen and testosterone suppression for trans girls and testosterone for trans boys, does that have any effect on ability to orgasm?

A. So just the gender-affirming hormones, testosterone more likely would improve that. The estrogen and the hormone suppression, it's possible that you could see some decrease in orgasm, and we would titrate the medication so that that didn't happen if it was something that the patient desired. Some trans feminine patients do not want to have erections. They don't want to have any of that going on. So, you know, we work with each patient and tailor their care.

Q. Then, again, for the patients who go from pubertal suppression to the gender-affirming hormones, does that progression affect a patient's ability to orgasm?

A. So it depends on where they are when we stop, when we start the medication, and it depends on what treatments come later. You can add back, for a trans feminine patient, testosterone if they have been on blockers that's topical and local and can actually improve growth of the genitals if they have been paused and improve their ability to orgasm with regard to the hormones.

There's a lot of stuff we work, try very hard to make sure the patients are sexually healthy.

Q. And for trans masculine patients who go from suppression to testosterone, is there any impact on their ability to orgasm?

A. No.

Q. And so it's my understanding that the only group of people for whom there may be some longer term impact on ability to orgasm would be trans girls blocked in early puberty who then go on to estrogen?

A. Correct.

Q. And for this group of people, how is this side effect managed?

A. Well, like I said, it depends on whether that's a side effect for them or a desired effect. If it's a side effect and they want to have orgasm, then, you know, we can add testosterone or dihydrotestosterone later to improve that.

Q. I want to also talk a little bit about some other implications for trans girls within this category of girls that go from pubertal suppression to hormone therapy, because defendants' experts have also focused on some of the potential surgical implications. For patients who go from pubertal blockers to hormones, can that affect surgical outcomes if they have a medical need for surgery when they are older?

A. So for those that -- again, it kind of just depends on where you start them. The earlier you start the patient on the

medication, the less genital growth that they have. So you would change the particular method of surgery potentially based on what's available for that surgery. One of the options that people are working on are all kinds of different options for those patients, including giving testosterone to grow that area to have more tissue available later on. But we do talk with our patients specifically that if we stop you earlier rather than later it may just change the technique that's required for your procedure later on.

Q. And moving on to talk a little bit about surgery, does the Duke Gender Clinic, where you work, provide surgery to adolescents with gender dysphoria?

A. No.

Q. And in your practice do you refer adolescents for top surgery to treat gender dysphoria?

A. Yes.

Q. And do you ever refer adolescents for genital surgery to treat gender dysphoria?

A. No.

Q. And have you had any minor patients who have undergone gender-affirming top surgery?

A. Yes.

Q. And how has the top surgery impacted your patients?

A. When my patients come back after their top surgery, they are all over the moon. They are very happy to have their body

align with their gender identity. They are often coming off their antidepressants and their antianxiety medications because anxiety and depression has improved so much. It allows them to focus on the future. They are able to better participate in school and work, yeah.

Q. And how has it affected their dysphoria?

A. Their dysphoria is much relieved by the top surgery.

Q. And I want to ask about some potential side effects of top surgery. Are patients able to retain nipple sensation after top surgery?

A. So it depends on the technique of the surgeon. Most of my patients have had no issues with that.

Q. And are patients able to breastfeed after top surgery?

A. In general, they are not able to.

Q. And how has that impacted your patients?

A. Well, most of them, it wasn't something that they did desire to do, and so it's not something that they have concerns about.

Q. Are there options for patients for whom breastfeeding is important?

A. Certainly we would talk about that and have them either delay their procedure until after they had their children.

Q. And moving on a little, just to generally talk about the efficacy of this treatment, we talked earlier about the goal of treatment for gender -- excuse me. We talked earlier about how

the goal of endocrine treatment for gender dysphoria is to alleviate the distress experienced by the incongruence between a person's gender identity and assigned sex. Is that right?
A. Yes. The distress is what the dysphoria is, and that's what we're trying to alleviate.
Q. And in your clinical experience and expertise are puberty blockers effective at treating gender dysphoria in adolescents?
A. Yes.
Q. And how are they effective?
A. For my patients, they are distressed by the changes that are happening in their body that don't match their gender identity. And being able to pause those changes allows them to decrease that dysphoria. It allows them to have less anxiety and lowers their depression.
Q. And what have you observed clinically in patients treated with puberty blockers for gender dysphoria?
A. In general, my patients do quite well. They are able to really focus on the important parts of growing up and participating in school and being active and involved when we are able to pause their puberty, and it gives them time to really think about their next steps without having to worry about pubertal changes that will make them feel bad.
Q. Do puberty blockers have an impact -- actually, withdrawn. In your clinical experience and expertise is gender-affirming hormone therapy effective at treating gender dysphoria in

adolescents?
A. Yes.
Q. How is it effective?
A. Well, if you align the body with the identity, it decreases that distress, and it decreases the incongruence between their body and their identity, so it can decrease their depression, their anxiety, their dysphoria, a lot of the other challenges that they have.
Q. Based on your clinical expertise as an endocrinologist, how does the effectiveness of pubertal suppression and hormone therapy to treat gender dysphoria compare to the effectiveness of other treatments that you might use for other pediatric conditions?
A. In general, the efficacy rate is very high. You know, there are other things that certainly aren't as likely to help in another pediatric condition like antibiotics for an upper respiratory tract infection.
Q. I'm shifting gears just a bit to discuss some of the effects of denying or delaying care. For patients undergoing pubertal suppression treatment for gender dysphoria, what would be the physiological effects of stopping that treatment?
A. So for patients who were on those puberty blockers and were feeling relief from them and they restarted their puberty once that medication has started, the distress that they were feeling prior could recur. Their anxiety can get worse. Their

depression can get worse. Their dysphoria can get worse. Their risk of suicidality can increase.

Q. And would it affect their body physically?

A. They would continue to have pubertal changes that were congruent with their assigned sex at birth.

Q. And would those changes be permanent?

A. Yes.

Q. And what about for an adolescent patient being treated with testosterone for gender dysphoria? What would happen if he had to discontinue treatment?

A. So, you know, facial hair would not be growing great. Body hair, they might have trouble with loss of their body hair, and their body shape would return to a more feminine shape, lower muscle mass, a shifting of the body fat. And with all of those shifts, their body would be, again, not aligned well with their gender identity and kind of definitely could affect their mental health.

Q. And how might it affect their mental health?

A. Increase in anxiety and depression and dysphoria.

Q. And what about for trans girls having to discontinue testosterone suppression and estrogen as part of their treatment for gender dysphoria? What would happen?

A. Yes. For the androgen blockers, you know, their beard would come back. And that could be very distressing for someone whose body is feminine and has already been through this

process, whole process to align, or they may see shifts in the body fat again, you know, less of that hips and chest and more central fat distribution. And with the androgen blockers, you may see shifts in the blood pressure because, as I mentioned, it lowers blood pressure, and it may cause that blood pressure to rise.

Q. Would you expect mental health effects as well?

A. Yes. Anytime that a person's body is no longer aligning with their identity they would very commonly have an increase in depression and anxiety.

Q. And are there risks of not initiating a treatment in the first instance if it is deemed medically indicated for an adolescent with gender dysphoria?

A. So that is something we look at with every single patient. We look at their current risks for waiting. And those primarily are around deterioration and mental health and worsening anxiety, depression, hospitalization and suicidality. And so we try to balance that with how much of that is going on and, you know, what the risks and benefits are of using medication.

Q. And how do you know these risks exist?

A. Because I've seen it in my practice.

Q. In what context have you seen it?

A. So I lost a patient to suicide because they did not make it to their second visit, when, you know, we would have been able to potentially start gender-affirming hormones at that time.

Q. And is it possible to just wait until patients are 18 before initiating these endocrine treatments for gender dysphoria where indicated?
A. Not for that patient. And for many of my patients, the risks are real.
Q. Thank you.
MR. STRANGIO: If I could have just one moment, Your Honor. Thank you.
BY MR. STRANGIO:
Q. Sorry. Just one clarifying question because I think you may have misspoke earlier. So if I could just ask the total number of patients that -- sorry. Withdrawn. I have no further questions.
MR. STRANGIO: I'll pass the witness.
MR. JACOBS: Is the Court planning on stopping at any particular time tonight?
THE COURT: Y'all asked me to stop at eight, so I was going to do that unless we either run out of energy or run out of witnesses, whatever the case. But we're going to do direct on this witness and redirect, if necessary. And then we'll evaluate further.
MR. JACOBS: Okay. Could we take a short, like five or ten-minute, restroom break before cross-examination?
THE COURT: Did y'all go last time?
MR. JACOBS: I don't remember.

THE COURT: Well, I mean, you asked for a restroom break, and I was wondering if that's really what it was for. We'll take a ten-minute break.

(Recess from 5:53 p.m. until 6:04 p.m.)

THE COURT: Go ahead, Mr. Jacobs.

MR. JACOBS: Thank you.

CROSS-EXAMINATION

BY MR. JACOBS:

Q. Good evening, Dr. Adkins. My name is Dylan Jacobs, one of the attorneys with the Attorney General's Office. I don't believe we have spoken before this evening. First off, though, I believe you testified that in your practice you follow the Endocrine Society Guidelines and WPATH Standards of Care.

A. Yes.

Q. So are the Endocrine Society Guidelines something that you regularly consult in your practice?

A. When a question comes up, I do.

MR. JACOBS: Your Honor, can I approach?

THE COURT: Sure.

BY MR. JACOBS:

Q. So this is the first five pages or so of Defendants' Exhibit 41. I'm not intending to have this admitted during this witness. Do you recognize this document?

A. Yes.

Q. Does this appear to be the Endocrine Society Guidelines

that you were referring to in your testimony earlier or the first few pages of those guidelines I should say?
A. It does appear to be that.
Q. Are you familiar with the Grading of Recommendations, Assessment, Development and Evaluation Group?
A. Yes.
Q. Is that commonly abbreviated as GRADE?
A. Yes.
Q. If you could, turn with me to page 3872. It's the second-to-last page on this document. So under the heading towards the end of the page, Method of Development of Evidence-Based Clinical Practice Guidelines, are you there?
A. Yes.
Q. Have you read this portion of the Endocrine Society Guidelines before today?
A. Yes. It's probably been a minute, but yes.
Q. And are you generally familiar with how GRADE grades evidence used in clinical practice guidelines?
A. Yes.
Q. And with its inclusion here, is it your understanding that the Endocrine Society has used the GRADE system to grade the evidence that it's citing for the practice guidelines here?
A. Yes.
Q. Is that unique to the Endocrine Society Guidelines, or is this used across other clinical practice guidelines in medicine?

A. Yes. It's used in other practice guidelines.
Q. Is that seen as a sort of standardized system for grading practice guidelines across specialties?
A. It has been used. There are some other systems that are also used, but this one has been used.
MR. JACOBS: So, Your Honor, per Rule 803(18), I guess under the learned treatise exception to hearsay, I was going to read a portion of this. I don't know whether you would like me to do that or if Your Honor wanted to look at it. How would you prefer we proceed on that?
THE COURT: If you can get me to the right place, I'll let you read it while I highlight it so I can go back without having to go to the transcript.
MR. JACOBS: So we're in the same place --
THE COURT: "(1) A detailed description," are we before or after that?
MR. JACOBS: So a couple of sentences after. I was going to start with "the task force."
THE COURT: I'm there. Just read slowly to my court reporter, and I'll follow along.
MR. JACOBS: It says: "The task force also used consistent language and graphical descriptions of both the strength of a recommendation and the quality of evidence. In terms of the strength of the recommendation, strong recommendations use the phrase, quote, we recommend, end quote,

and the number 1, and weak recommendations use the phrase, quote, we suggest, end quote, and the number 2. Cross-filled circles indicate the quality of the evidence, such that" -- and there's a graphical depiction of a cross-filled circle followed by three blank circles.

THE COURT: You don't have to describe it.

MR. JACOBS: -- "denotes very low quality evidence." The next graphic, "low quality"; the next graphic, "moderate quality"; and the last graphic, "high quality. The task force has confidence that persons who receive care according to the strong recommendations will derive, on average, more benefit than harm. Weak recommendations require more careful consideration of the person's circumstances, values and preferences to determine the best course of action. Linked to each recommendation is a description of the evidence and the values that the task force considered in making the recommendation. In some instances, there are remarks in which the task force offers technical suggestions for testing conditions, dosing and monitoring." Let me make sure that's all. "These technical comments reflect the best available evidence applied to a typical person being treated. Often this evidence comes from the unsystematic observations of the task force and their preferences; therefore, one should consider these remarks as suggestions."

Let me make sure I'm done with this.

Okay. So now we turn back to page 3871.

MR. STRANGIO: Objection. Is there a question related to that passage?

MR. JACOBS: I was going to get there.

THE COURT: Go ahead. We're on 3871.

BY MR. JACOBS:

Q. So do you see the Section 2.0, Treatment of adolescents?

THE COURT: No. Yes.

BY MR. JACOBS:

Q. Dr. Adkins, do you see that section?

A. Yes.

Q. And do you see under the various sort of bulleted suggestions that they are preceded by a number followed by a graphical picture? So do you understand each of those suggestions to be graded according to the metric that we were just talking through under the GRADE method?

A. Yes.

Q. So these recommendations for 2.1 through 2.6, are these recommendations that you follow in your practice?

A. Yes.

Q. So if we could go to 2.1, it reads: "We suggest that adolescents who meet diagnostic criteria for GD/gender incongruence, fulfill criteria for treatment, and are requesting treatment should initially undergo treatment to suppress pubertal development." So would you agree that under the

grading system the evidence for that statement was deemed low quality under the GRADE system?
A. That's what it's labeled. We have many clinical guidelines in pediatrics that are often low quality, including our guidelines for CAH, our guidelines for pediatric obesity. So it's not surprising to see that in any pediatric guideline.
Q. Sure. So the number that's right next to the graphic is a 2. And you would agree that that classifies 2.1 as a weak recommendation under this GRADE metric?
A. I would have to look back. That's confusing.
THE COURT: So I'm a little confused. Let's just take 2.1, for instance. It says that the guidelines suggest what they suggest, but they do so weakly? I'm not sure. It says they do suggest it, so I'm not sure how to match the grading system with what the language of the suggestion is telling me.
MR. JACOBS: So, Your Honor, if we go back to 3872 under the long section --
THE COURT: And I read that part.
MR. JACOBS: -- that I read --
THE COURT: You mean the long section where you had me highlight?
MR. JACOBS: That's right, Your Honor.
BY MR. JACOBS:
Q. Dr. Adkins, reading back in that section, is it your understanding that where one of these standards uses the phrase

"we recommend" at the beginning and the number 1, that is what the grading system calls a strong recommendation? Is that your understanding of how that's denoted?
A. Yes. Based on that line, yes.
Q. So if a number 2 is used along with the language "we suggest," that is what the GRADE method calls a, quote, weak recommendation?
THE COURT: That explains it to me. You can inquire further for your record, but that answers my question.
THE WITNESS: Yes.
BY MR. JACOBS:
Q. So I think we were at 2.1. I'm not sure if we finished that question. So do you agree that under the grading method that is both a weak recommendation that, according to the GRADE method, is based on, quote, low quality evidence?
A. That's how it's labeled, and we also see that very commonly in pediatric clinical guidelines.
Q. So for 2.2, it says: "We suggest that clinicians begin pubertal hormone suppression after girls and boys first exhibit physical changes of puberty." The same question as to that. Does that grading metric deem that to be a weak recommendation based on, quote, low quality evidence?
A. That's how it's labeled.
Q. 2.3. "We recommend that, where indicated, GnRH analogs are used to suppress pubertal hormones." That one is also deemed

low quality evidence. Correct?
A. That's how it's labeled.
Q. So going down to 2.4: "In adolescents who request hormone treatment, given this is a partly irreversible treatment, we recommend initiating treatment using a gradually increasing dose schedule after a multidisciplinary team of medical and MHPs has confirmed the persistence of GD/gender incongruence and sufficient mental capacity to give informed consent, which most adolescents have by age 16 years." The same question about the quality of evidence. Is that, quote, low quality based on the GRADE method?
A. It is lettered low quality. They do also recommend, so a kind of mixture of the two. The previous ones said suggest versus recommend.
Q. Down at 2.5 -- we're almost done with this. 2.5. "We recognize that there may be compelling reasons to initiate sex hormone treatment prior to the age of 16 years in some adolescents with GD/gender incongruence even though there are minimal published studies of gender-affirming hormone treatments administered before age 13.5 to 14 years. As with the care of adolescents greater than or equal to 16 years of age, we recommend that an expert multidisciplinary team of medical and MHPs manage this treatment." So the grading evidence on this one is very low quality, right?
A. It's very low quality, but they are also making a

recommendation and not a suggestion in this particular passage, which would suggest it's not just based on the very low quality evidence, that they are making this particular recommendation, you know, based on the descriptor of the GRADE system.

Q. In general, under the GRADE system, whenever a point like this is assigned a low quality grade, do you agree that indicates a lack of confidence that patients will on average derive more benefit than harm?

A. Actually, in the statement before that we read, it said when they use the word "recommend," it actually doesn't apply in that way. Only in the ones where they use the phrase "suggest."

Q. So the ones where there is a 2 and the two filled circles for that one, for those statements it indicates a lack of confidence that patients will on average derive more benefit than harm?

A. That's what this statement says. And these guidelines are also five years old, and there's been a lot more evidence since the time of this publication that these don't reflect.

Q. But you follow these guidelines in your practice. Correct?

A. In addition to the newer research as well. You can't ignore new research just because it's not in a guideline at a particular point in time. You may miss something important and do something that might not be beneficial to the care of the patient.

Q. Would you agree generally that for any of these

recommendations to receive a higher grade evidence score, that's probably going to require controlled trials?
A. So the highest level is a randomized placebo-controlled trial. In pediatrics, we rarely have randomized placebo-controlled trials. It has to do with, in particular areas like this, where the particular entity that you are studying is a rare condition, that you will never be able to recruit enough patients, and there are difficulties in getting the proper control group. So it's really not uncommon for us to not have a high grade of evidence, especially in pediatrics.
Q. So my question was for these recommendations to receive a higher than low quality grade, is that typically going to require controlled trials?
A. Yes. And in this case it's highly unlikely in most pediatric research that you are going to reach that.
Q. So in the past five years, have there been any controlled trials that would lead you to believe that if this GRADE metric were redone today that they would receive higher than low quality?
A. I mean, you are asking me to comment broadly on a lot of literature, and I can't say that I've read all of the literature. The studies that I have looked at are better quality than the original research. As we progress in our medical research, we are improving our, you know, ability to do a better method. We're always trying to do that.

Q. Can you think of any controlled trials that have come up and published in the last five years that would apply to any of these recommendations that we discussed?
A. So, again, a controlled trial is kind of a nonspecific term in medicine. There's, you know, placebo-controlled trials. There is using a control group going forward that's not randomized. There's just too many variables there for me to make a comment.
Q. So would the answer be you don't know?
A. I would have to look at, you know, a lot of these things. There are some studies that are of good quality and have been done with some randomization, but you can't not treat the patients, which would be a placebo control. So it would have to be what we call compared to the next best treatment. So there have been some of those.
Q. But you can't testify, sitting here today, that if this were graded in 2022 based on new evidence available that you know any of these recommendations would receive something higher than a low quality grade. Correct?
MR. STRANGIO: Objection. Calls for speculation.
MR. JACOBS: She's an expert.
THE COURT: I don't know that that -- well, answer it if you can, Doctor.
THE WITNESS: So my expertise is not routinely grading studies for this kind of a clinical guideline. And the newer

publications that have been reviewed didn't use the GRADE system. They used something called the Delphi system to look at the newer research. So it would be difficult for me to kind of apply that spontaneously over five years of research.

BY MR. JACOBS:

Q. I want to go on to talk about puberty blockers for a little bit because I wasn't sure I heard this right earlier. How many patients do you think that you have treated with puberty blockers for gender dysphoria particularly?

A. I believe it's about 12.

Q. What year did you start treating adolescents for gender dysphoria?

A. Approximately 2013.

Q. How many patients would you say you currently have on puberty blockers for gender dysphoria?

A. Maybe nine.

Q. So of the 12 patients or so that you've treated across your career, nine of those patients are still on puberty blockers currently? Is that a fair summary?

A. I think that's right.

Q. Of the three patients who are no longer on puberty blockers, how many would you say moved on to hormone treatment versus did something else?

A. I think two of them went off, just went off -- no. One of them just went off. One went off after starting

gender-affirming hormones, and one transitioned to a different form of suppression of their puberty.
Q. What do you mean by different form of suppression?
A. So you can stop a gender-affirming hormone and put someone, for example, on spironolactone instead of the GnRH agonist. Testosterone itself actually will work as a puberty suppressant by itself, so you can stop those medications as well.
Q. So out of the three, I think you said you had one who stopped puberty blockers and went on to cross-sex hormones. Right? I could be getting this wrong.
A. No.
Q. No. So recap that for me. Out of the three, what happened to those three?
A. So one went off of the medication completely and went through their normal puberty. One did have added gender-affirming hormones but also decided to go off, and one went off and switched to different suppression. I guess those last two would be basically the same. There were just different methods of suppression.
Q. So in addition to the testosterone-blocking medications, that person would also have been prescribed estrogen or only the testosterone blocker?
A. Yes. They would have been treated with estrogen.
Q. Okay. So out of those three, do you recall what the natal sex breakdown was?

A. I think that two were assigned females at birth, and one was an assigned male at birth.
Q. So the male at birth, was that the one that went off completely or the one that moved to cross-sex hormones and then went off completely?
A. It was not the person who just went off and went through their own puberty. That person was on testosterone. Then they went off of their puberty suppressant.
Q. Okay. It's late, and I may not be following correctly. So you had one patient who went off puberty blockers and then did not receive any further medical interventions. Right? So that person, what was their natal sex?
A. They were assigned female at birth.
Q. Then the patient who proceeded to hormones, then ceased all medical interventions, that was male?
MR. STRANGIO: Objection. That's mischaracterization of the testimony.
MR. JACOBS: If that wasn't, please explain.
THE COURT: If he misstates your testimony, you can correct him on it.
THE WITNESS: Yeah. The person who went on to gender-affirming hormones after being on and continuing on puberty suppressants and then discontinued their medications, that was an assigned female at birth.
BY MR. JACOBS:

Q. Then the male at birth added in estrogen?
A. I'm sorry. I misspoke. Assigned male at birth. Sorry. I'm having -- it's late.
Q. I'm not trying to be difficult. But, like you said, it's late, so let me just recap. If I misstate this, please correct me. You had one patient who went off who was on puberty blockers, went off all medications. That person was female at birth?
A. Yes.
Q. Then you had one who added cross-sex hormones, added, I guess, estrogen and a testosterone blocker. And that person was male at birth?
A. Yes.
Q. Then the third person, is that something different, or is that the same as what we just did?
A. That was assigned a female at birth. I'm making sure I'm getting this right. Assigned female at birth, who went on estrogen, but then went off everything, yeah.
Q. Currently, since you've been providing care for gender dysphoria, it's fair to say you have had one patient who was a natal male, started puberty blockers and then moved to cross-sex hormones afterwards, out of all the patients you treated.
A. No. That's a different question. Those are the ones who went off treatment only. The ones who were on puberty blockers and went on to gender-affirming hormones were which assignment

at birth?
Q. So I think you testified that you've had three who aren't on puberty blockers anymore. I think you said one of the three was male at birth, two of the three were female. So my question was just you've had three total patients who started on puberty blockers and aren't on them anymore. Right? So one of them was male at birth, who eventually transitioned to cross-sex hormones. Is that correct?
A. Yes.
Q. So that's the only patient like that that you've treated in your career.
A. I have other patients who were on puberty blockers who went on gender-affirming hormones that are still on those. Those are just the patients who went off.
Q. Okay. So I thought your testimony was that you had treated 12 patients, about, with puberty blockers ever.
A. That's about right, yes.
Q. So I thought your testimony was nine of them are still on puberty blockers --
A. Yes.
Q. -- today. So those nine are not taking cross-sex hormones?
A. Not all of them. Some are still just paused. Some of them are on gender-affirming hormones.
Q. So when you say -- let me maybe phrase my question a bit differently. When I say puberty blockers, assume that I mean

GnRH analogs and not spiro -- testosterone blockers.
A. Yes.
Q. So for limiting this to patients who are -- who you've prescribed GnRH analogs, the answer is still 12 or so?
A. Yes.
Q. So of the nine who are -- the nine that we were talking about, are all nine of those patients still taking GnRH analogs?
A. Yes.
Q. And some of them are taking a GnRH analog in addition to a cross-sex hormone?
A. Correct.
Q. So would that be someone who is taking testosterone or someone who is taking estrogen?
A. Both.
Q. Both?
A. They are each individual patient.
THE COURT: Some of each.
THE WITNESS: Yeah, some of each, yes. They wouldn't be taking estrogen and testosterone at the same time in the same patient, yeah.
BY MR. JACOBS:
Q. Right. Yeah. Okay. So for patients who start on puberty blockers and eventually go to cross-sex hormones, is it typical to keep the GnRH analogs going for the whole treatment, or do those stop at some point?

A. That is an individual patient decision. For the patients who are very concerned about any further of their endogenous puberty progressing, we would continue the GnRH medications. For those patients who either might have less concern or their hormone levels for estrogen and testosterone are high enough that they would suppress your own puberty from the pituitary and the hypothalamus, we can stop those medications. And if we need to add spironolactone for the trans feminine patients, it's a very individualized decision. And we talk about it with everybody because also sometimes the medication becomes unavailable as far as the GnRH agonist, so either not affordable, or lately there's been manufacturer issues with them, and so we have to make a different decision for those patients.

Q. So how many patients would you say -- so how many male boys who have started on puberty blockers and have proceeded to cross-sex hormones would you say you've treated, whether they maintain the GnRH analogs or cease?

A. Of those nine, I couldn't tell you the division of which were assigned males or females. I haven't dug into that.

Q. But you think it's probably five or fewer-ish or no?

A. That are assigned male at birth?

Q. Sure.

A. I mean, making an assumption that they match my -- I mean, I don't think that I can actually say that. I was going to say

making an assumption that matches the rest of all of my patients, but I can't tell you for sure that that's true.
Q. Okay. So assuming you get a patient who is sort of early Tanner Stage II, you diagnosed this person, or the person is diagnosed, I guess, with gender dysphoria and you prescribe puberty suppression as the treatment for this person, is there a sort of go-to medication that you generally choose for that?
A. So GnRH analogs, there are three injectable formulations and one implantable formulation available in the U.S. In general, the type of that medication is decided, honestly, by the insurance company.
Q. So there's no real, I guess, medical reason why you might pick one over the other. It's just sort of a convenience or price issue most of the time?
A. Well, I have a lot of patients who have needle phobia, so the injectables are not at all ideal. And I talk with their insurance companies about using the implant for those patients, so that would be the medical reason to choose one over the other that I can think of.
Q. Does the patient's sex have any impact on which GnRH analog that you would prescribe them?
A. I don't use their assigned sex at birth as any directive.
Q. So that's not relevant to your decision of which GnRH analog to prescribe?
A. Correct.

Q. Is it relevant for the dose you would prescribe?
A. The dose is either weight based or age based, so it wouldn't be directed by -- for gender dysphoria or for early puberty.
Q. So for precocious puberty, I think you testified that sometimes that can occur very early in childhood, as early as -- I think at one point you said as early as two years old. Is that right?
A. Yes.
Q. So what age would you typically -- so I'll back up. So assume that you have a patient who you've been treating for precocious puberty with a GnRH agonist. At what age or what stage of development are you typically going to cease that medication?
A. Sorry. My allergies are really bad. So their stage of development should stay where it is, so it's not going to progress. And we're not going to make the decision to stop medication based on their pubertal development. The primary things that we look at are their bone age. So your hand has growth plates in all of your fingers and your wrists. And the different bones in your wrist actually calcify at a different age. So there's a bone age for every six to 12 months depending on how old you are, and it just is a way for us to see how much growth you have left.
So in precocious puberty patients, we are -- usually those

bones are older than the patient because of the exposure to the puberty hormones. So we're trying to pause any more effect of those puberty hormones on those growth plates because, otherwise, they would stop growing at an early age. And the goal is to have them continue to grow for a more appropriate time frame and reach an adult height that is appropriate for their sex assigned at birth. And so I tend to use bone age as well as depending on the patient, especially in the assigned females at birth if they are developmentally ready to handle menstrual cycles. So for a lot of patients who have central precocious puberty, it's because they have had some either brain malformation or brain injury, like cancer treatment or something along those lines, or a condition that has altered their brain. So they may also have cognitive issues, and they may also have physical issues like cerebral palsy. So we do a lot of individualization with the family and the patients with those kind of targets.

Q. Is there an age you would say it's typical where you would start having conversations with a patient and their family about ceasing puberty suppression or some age you have in mind where that ought to start occurring?

A. You know, we try to have it happen at a time that's typical for their peers. However, it really depends on how far advanced their bone age is when they first start treatment. If it's only advanced a little bit, then we can shorten the duration.

However, there are kids that come to us who have had this puberty going on and unrecognized for longer, and their bone ages are much further advanced. We would -- that would change the course of treatment.

THE COURT: Is this going to get me to our questioning that we have to decide pretty soon, because while it's all interesting, I'm not sure what it has to do with gender dysphoria issues.

MR. JACOBS: I hope it will.

THE COURT: I do too.

BY MR. JACOBS:

Q. So I guess what I'm sort of wondering, it may be hard to put an age on it for any given patient. But would it be typical to keep someone on puberty suppression for precocious puberty past 11 or 12, or is that something that frequently happens?

A. Well, it also depends on the sex assigned at birth. Most patients with central precocious puberty are female, about 90 percent. However, so their puberty is going to be at a different time frame than those assigned male at birth. So someone who is assigned male at birth, if their puberty started at seven or eight, and their peers aren't going through puberty until 12 to start with, on average, you know, that's a different target and a different time. But most of it really is about targeting an appropriate height and trying to keep the patients within a relatively normal time frame.

Q. So I think my initial question was, you know, would it be typical for someone to come off of these medications by 11 or 12? I think you said there might be differences between boys and girls. To ask it individually, would it be typical for a girl to come off puberty suppression by 11 or 12 or no?
A. No. Every patient is different. I've taken some off at nine. I've taken some off at 11, some at 12. It varies a lot.
Q. What about 13, 14? Is that typical or more rare?
A. So that, for kids with precocious puberty, would be for girls assigned female at birth, would not be likely because they would miss their growth spurt. So they do need to have that puberty happen at some point to allow them to get their growth spurt.
Q. So just to be clear, was the answer to my question that it would be atypical for a girl to be on pubertal suppression still at 13, 14, in your experience?
A. For central precocious puberty, yes.
Q. What about boys? Would it still be atypical by 13 or 14?
A. And because boys' averages shifted about three years later, they may not even be diagnosed until 11 or 12, so those patients may end up going past that by some.
Q. Okay. So you are familiar with the WPATH Standard of Care 7 document that we've been discussing -- I guess maybe you weren't here for that discussion. But you are familiar with WPATH Standard of Care 7?

A. Yes.
Q. So what was the age on WPATH 7 for adolescents to start cross-sex hormones?
A. So for that recommendation, which has now been replaced by SOC 8, the recommendation was -- for gender-affirming hormones was the question? 16 and -- between the ages of 14 and 16 based on the individual patient.
Q. Have you ever prescribed hormonal treatment for gender dysphoria for an adolescent below the age of 16?
A. For patients who needed it, yes. That is at the discretion of the guidelines.
Q. Out of however many hundred adolescents that you prescribed cross-sex hormone, ballpark percent of how many were 16 or above or how many below 16?
A. The best I can do is most of my patients present to my clinic at 15 or 16, so it's not going to be a large percentage, but for those in that 14 to 16 window.
Q. What about of the patients who come to you who are on the younger end, 12, 13? The percentage is closer?
A. I'm sorry. I didn't understand the question.
Q. I think what you just told me was that most of the patients you get in are 15 or 16 already?
A. Yes.
Q. So I think necessarily most of them are going to be 16 and above anyway was what you were testifying?

A. Yes.
Q. But you do have patients come in who are on the younger end of the spectrum, say, 12, 13. Right?
A. Yes.
Q. So for those patients for whom, you know, hormonal treatment prior to 16 is more of a possibility, do you have an estimate of what percentage of them start hormones prior to 16?
A. You know, I haven't parsed that out. My general approach to those patients is, you know, really walking through, informing the patients and their parents that, you know, the data isn't as robust for kids 14 to 16 as it is for those who are 16 and up. And I talk about the guideline recommendations, that if that's important for someone 14 to 16, that it is something that can be pursued. We walk through with that patient and that parent or set of parents and weigh whether that's something that we want to do right now or if that's something we want to wait for. Is it safe for that patient to wait until they are 16? And every patient is a different calculation. I couldn't tell you honestly, other than to say that that's not a large portion of my patients.
Q. Setting aside treatments for gender dysphoria, is there a medical indication for natal boys to take estrogen?
A. Natal boys to take estrogen? So there have been some people who have given natal boys estrogen to slow down their growth for tall stature. That's the only thing I can think of.

Q. Aside from treatments for gender dysphoria, have you ever personally prescribed estrogen to a natal boy?
A. No.
Q. Same question for progesterone.
A. I'm sorry.
Q. Same question. Are there any medical indications to prescribe progesterone to a natal boy?
A. Oh, well, progesterone can be used to treat early puberty in assigned males at birth in patients who are either not responding to GnRH agonist or if there's some other issue.
Q. Have you ever prescribed progesterone to a boy for that purpose in lieu of a GnRH agonist -- I'm sorry -- excuse me. GnRH analog?
A. I have not, but my partners have.
Q. So similar question, is there ever a medical indication to prescribe testosterone to a natal female, an adolescent female, I should say?
A. So, you know, when you have hypopituitarism, the pituitary controls a lot of different things, including the adrenal glands. The adrenal glands also make male hormones. And so for some patients with hypopituitarism who are unable to make their own androgens, we would potentially prescribe for that. And for Turner syndrome patients, not testosterone, but a different androgen we sometimes provide for them as a growth accelerant without advancing their bone age.

Q. So a different androgen, but not testosterone.
A. Correct. The androgen has all the other effects that testosterone has with the exception of you can't convert it to estrogen, so you can't advance the growth plates.
Q. So would it be DHT, or what would the other androgen be?
A. Oxandrolone.
Q. Oxandrolone. Okay. So going back a step to the adrenal issue mentioned, so in that case, is it fair to say you would be prescribing testosterone to the female for a testosterone deficiency in trying to address that?
A. Yes.
Q. And prescribing oxandrolone wouldn't be to address a hormonal deficiency. Right?
A. Not for -- I mean, you could technically use it in the same situation for hypopituitarism. But what I've used it for with Turner syndrome is not for a deficiency.
Q. So if you are prescribing testosterone in a female for a deficiency as a result of some kind of adrenal issue, would you -- you would be prescribing a much lower dose than you might prescribe for gender dysphoria treatment. Correct?
A. Yeah. The goal for each of those is always to target where the normal physiologic level is for that particular gender identity. So female testosterone levels are lower than male testosterone levels.
Q. So the answer would be, yes, it would be a much lower dose

to treat the adrenal issue?
A. Yes.
Q. Have you ever prescribed testosterone to treat an adrenal issue in an adolescent female?
A. Once.
Q. And that's out of several thousand adolescent patients that you've treated?
A. Correct.
Q. So is it fair to say that, setting aside treatments for gender dysphoria, that it would be very rare for a medical provider to prescribe cross-sex hormones to adolescents?
A. Yeah. It's not very often that that happens.
Q. And for you it's been maybe two or three at most out of the thousands of patients that you've seen over the years?
A. Maybe at the most five, yes.
Q. I want to switch gears a little bit. So we've been talking about gender dysphoria treatments. I'll ask you a little bit more general questions about that. In your opinion, what is gender?
A. So gender is really the social construct that a person has about what their -- about, you know, usually typically related to their sex assigned at birth. And it's related to how their family, friends, etc., are, you know, socializing them, you know, whatever that particular culture does for assigned females at birth, whether that be clothes or hair or whatever. That

gender is that social construct typically related to your assigned sex at birth.
Q. So the term "gender" and the term "gender identity," do you see those two things as being the same concept or different?
A. I see them as different.
Q. Can you explain what the difference is?
A. So someone's core understanding of their gender is their gender identity. So, you know, gender can be relative to social and all of that with regard to, you know, how the community reacts around you. But your gender identity is something that's a core part of who you are.
Q. Is it accurate to say that someone can have an understanding of their gender identity?
A. Yes.
Q. You've used that -- I think you've used that phrase before in this case. Someone's understanding of their gender identity, is that a different idea from what their gender identity is?
A. So for most people their gender identity is something that is something they know right away, and they don't necessarily develop an understanding of that gender identity as they get older. You know, everyone has to kind of figure that out, what your gender identity is. A lot of that childhood development is in young kids, you know, two, three, four years old. And then some of that development and understanding of your gender identity happens as you progress and get older and go through

puberty.
Q. Is there a point in a person's life where you would expect their understanding of their gender identity to be complete, I guess for lack of a better word?
A. You know, for most people their, you know, consolidation of gender identity happens during puberty, but that's not to say that there aren't changes that can happen as they get older.
Q. Can changes in someone's understanding of their gender identity occur even into adulthood?
A. Yes.
Q. I think you've testified previously that your opinion is that someone's gender identity is fixed, meaning not subject to voluntary change or outside change. Is that an accurate statement of your opinion?
A. Yes.
Q. What about spontaneous change, involuntary changes to gender identity? Do you think that's possible?
A. I would need further clarification if you don't mind.
Q. Well, you've said that someone can't voluntarily change their own gender identity. Right? Do you agree with that?
A. Yes.
Q. And outside influences, your opinion is that that can't change a person's gender identity. Correct?
A. Yes.
Q. So there's sort of room in there for involuntary changes

that originate, say, within an individual. What about that? Is that something you think can happen? Can a change in gender identity do that?
A. So that can happen. In my clinical experience, I don't see that happen very often. In the medical literature there aren't a lot of reports of that happening very frequently after puberty.
Q. So typically when you have a child who identifies as, say, gender A early in their life and later at some point identifies as gender B, would you say that their gender identity is typically changed, or would you say that their understanding of their gender identity has changed?
A. Well, both can happen.
Q. I think you just said changes in gender identity were pretty rare. Right?
A. I did say it was rare, but I didn't say never.
Q. Would you say it's more typical for, say, a child who identifies with one gender but later identifies with a different gender to have reached a different understanding of their gender identity, or is it more common for their actual gender identity to have changed?
A. Well, I would say that, you know, there are variations here, there, you know, a lot to think about. So when you talk about gender identity, there are gender identities that are more than just male or female. There's, you know, nonbinary, for

example. For my patients, some identify as a transgender male at one point and then later identify as nonbinary. And that is also not common, but it does happen. Some of it may be their understanding of their gender identity and finding those words to describe what's going on with their identity, and some of it could be that that identity is different.

Q. But you don't know which one is which in any given patient?

A. The most important part of really taking care of these patients is that we are, you know, affirming their identity. We're providing the care that they need at that moment that's going to keep them safe and healthy, and we can change with each patient with their conversations. Every patient I see, every time I talk with them, whether it's gender dysphoria or hypothyroidism, we may change the treatment based on what's going on in front of us right then and there.

Q. So typically in your practice you get information about a person's gender identity directly from the patient. Right?

A. Well, we get information about their gender identity from the patient, their caregivers, including their parents, as well as from their mental health providers.

Q. Would you say that a person's or a patient's own statements about their gender identity is the most probative evidence of what their gender identity is?

A. I weigh a person's own statements fairly heavily, and I also take into account all of the perspectives, because when you

are working with children, you have to include everyone in the conversation to really get the full picture. It's part of pediatrics in general.

Q. I think you said you would weigh a patient's own statements more heavily than other sources of information. Right?

MR. STRANGIO: Objection. Mischaracterization of the testimony.

BY MR. JACOBS:

Q. Tell me if that's right or not.

A. I take it into consideration, and I find it very important. I also include everyone else's in that calculus. I don't necessarily think I can give you a which weighs heavier or the other.

THE COURT: It's also about the second time you've asked that question in about ten seconds, so let's move it along, please.

BY MR. JACOBS:

Q. So when a patient is self-reporting information about their gender identity, would you agree that what they are really communicating to you or other clinicians is their own understanding of their gender identity?

A. Their understanding of their gender identity at that moment, yes.

Q. And you would agree that that understanding can change over time?

A. Yes.
Q. You would also agree there's no set point in a person's life when they ought to completely know their gender identity?
A. You know, my clinical practice, most folks by puberty; and in our medical literature, by puberty, and yet it still happens in adulthood.
Q. And you can't know for any given patient whether their understanding of their gender identity at a given point in time is going to remain that for the rest of their life or change. Right?
A. We're not seeing a lot of individuals change, and I can't say that it won't change.
Q. So I think the answer to my question was, yes, you can't say that it won't change?
A. Correct.
Q. So are you familiar with the phenomenon of some people undergoing medical interventions for gender dysphoria treatment and quote/unquote detransitioning? If I say the word detransitioning, does that have a meaning to you?
A. Yes.
Q. So I guess I'll first ask, have you ever personally treated any patients who have underwent medical interventions and later detransitioned?
A. So I mentioned one already when we were talking about the puberty blockers. That patient went off puberty blockers and

went back to their assigned sex at birth for their identity and live their experience. And I have other patients who have decided to stop taking gender-affirming hormones and live in the identity of their sex assignment at birth. And there are various reasons that that might happen, one of which might be that their gender identity is different at that time. Others might be that it's not safe for them to live in that particular gender identity and continue to use gender-affirming hormones. Another might be they can't afford their medications.

Q. So I think you said the first one, that the reason they might have stopped the medical intervention could be that their gender identity was different at that time. Did I understand that right?

A. Yes.

Q. So you would agree that that patient or patient's gender identity changed during the course of treatment?

A. I've only had a very few of those. And, yes, their identity changed during their gender-affirming treatment for some of them, but not all of them.

Q. So for those patients, that's not something that you predicted on the front end of treatment would happen. Right?

A. You know, our goal is to really get all of the details and understand every person and their gender identity in their gender journey. And we would prefer that, you know, the treatment continues along that path. But everybody's journey is

different. Sometimes that's going to mean that they change the way they either identify or express. Our goal is to do everything we possibly can to make the individual safe and healthy.

Q. So going back a minute to the Endocrine Society Guidelines and the WPATH Standards of Care, you testified previously that you follow those in your own practice. Right?

A. Yes.

Q. So can you testify that all of the providers of -- the providers in Arkansas who treat adolescents with gender dysphoria follow those guidelines and standards of care?

A. Those were the standards of care that we reviewed when I taught the class there in 2018. I don't know that they are necessarily what they are using currently. They could have been using the SOC 7. They may be using the SOC 8. They may be, as I mentioned, using current changes in the literature to kind of help them provide the best care.

I do talk with people around the country regularly about what they are doing in their practice. Our Pediatric Endocrine Society meets. We have LISTSERVs that we're all on, and we ask questions and talk with each other about what our general practices are. And we also have multisite databases where we try to standardize care within the area of pediatric endocrine care for gender dysphoria.

Q. So specific to Arkansas, though, I think your answer was

that, no, you don't know if any of these, the current practitioners, are following the WPATH Standards of Care or Endocrine Society Guidelines in their practices.
A. I haven't heard anyone at any of our meetings say that they were not following them. I can't tell you about -- I haven't had a conversation with them.
Q. So I think you testified about your clinic's informed consent process earlier as various verbal/written components. Would you describe your informed consent process as pretty robust?
A. Yes.
Q. And you said that that was consistent with the Endocrine Society Guidelines and WPATH Standard of Care. Right?
A. Yes.
Q. But those guidelines don't necessarily require an informed consent process that is as robust as the one your clinic uses, do they?
A. So the current SOC guidelines actually specifically address a lot of the strategies that we use for our consenting process, so I don't think that the SOC 8 is inconsistent with the practice that we have with regard to consent.
Q. Do you think that SOC 8 requires providers to use as robust of an informed consent process as your clinic uses?
A. I would have to look at the guidelines to see if they use the word "required." I have read them. They strongly recommend

that all of these things be taken into context, as I remember it. But I don't recall if the word "required" was actually in the SOC 8.

Q. I think you've testified previously maybe in your deposition that when your clinic does informed consents you require either the patient or their parent or guardian to kind of initial line by line on most of the disclosures about unintended effects or side effects. Is that kind of an accurate description of the mechanics of that?

A. That's part of it, yes.

Q. And the guidelines don't require that anybody do that. Right?

A. The guidelines want you to and strongly recommend that you make sure in whatever way is needed that the patient understands the effects and side effects. One way is the way that we do it with the written consent process. One way is verbal. One way is with pictures. The guidelines want you to be very careful that you know that the patient understands in whatever method you use to consent the patient.

Q. I think, when you were talking about the side effects of some of these treatments, you mentioned development of bone mineral density. Do you remember that portion of your testimony?

A. I remember talking about bone mineral density.

Q. So I think you were talking about what happens to bone

mineral density based on the use of puberty suppression and maybe later when puberty is initiated. Does that sound familiar?
A. Yes.
Q. So you said that this development just sort of picks up as normal after withdrawing puberty suppression. Is that your opinion?
A. That's been my clinical experience.
Q. But you've had --
A. With the exception of a few patients who had low bone mineral density to begin with.
Q. So I think you've testified earlier, though, that you had maybe one or two patients who -- scratch that. I think you testified earlier that you've only had one patient who was prescribed puberty blockers and then came off and initiated their sort of normal hormonal puberty. Right?
A. Yes. But the puberty that we induced with the gender-affirming hormones does increase that bone mineral accrual just like it does for the patients whose own puberty is happening.
Q. I think you testified earlier that it was a very small number of patients that you've had who have actually started on puberty blockers and moved to cross-sex hormones. Is that right?
A. Yes. You know, we've also -- there's literature that is

available, and we talk about it amongst ourselves. And there are people who have presented at our meetings, so I'm not only relying on my patients' histories.

Q. But in terms of your clinical experience, you would agree with me that five or so is a very small number to make population-level decisions on?

A. That's why we are talking with one another and learning. And they have been using these medications and protocols for, you know, 30 years. So we have information that's not just my five patients to look at that's been going on for quite some time.

Q. So you were discussing the potential side effects of treating adolescents with testosterone earlier. So I have in my notes that you mentioned the side effects, the possible side effects, being male pattern baldness, acne, increased cholesterol, hemoglobin, hematocrit, fertility impacts. I think you said those side effects were comparable to treating other conditions. What I'm wondering is, if you are treating a natal boy for delayed puberty with testosterone, would you expect male pattern baldness as a side effect?

A. The duration of that treatment for delayed puberty is typically only six months, so it wouldn't be long enough for male pattern baldness to occur. But if you are treating something like hypogonadal -- hypogonadism, in other words, the brain is not working to tell your body to make your own puberty,

then you would definitely potentially see male pattern baldness if that happens to run in that patient's family.
Q. Would you see male pattern baldness arise during their adolescent years or later in adulthood if they continued treatment?
A. For all of the patients that I use that for, the male pattern baldness is later on and not in their adolescence.
Q. What about increased levels of hematocrit? Is that something that you typically see in boys being treated with testosterone for delayed puberty?
A. Yes. That's a normal effect of testosterone is to raise your hematocrit.
Q. I think you talked about treating with estrogen and the risk of blood clots and stroke. Is that a risk that you are worried about with your adolescent patients on estrogen?
A. It is something that we counsel them about. We don't see it in adolescent patients. It tends to be something that, if it does occur, it occurs later in life and in patients who are using excess amounts, unmonitored amounts, of estrogen. And we want to be very clear with our patients what they need to do to be safe using these medications, as safe as possible.
Q. So you would agree that the blood clot and stroke risk from using estrogen is higher later in a person's life than it is in adolescence?
A. In the case where you are using the medication

appropriately, as part of normal aging, your risk of clots increase for all sex assigned at birth and for people who are on estrogen, both cisgender and transgender patients who are on estrogen. That does increase with age. It's part of the aging process. It usually has to do with kind of the other things in life that are contributing, more likely to be smoking, more likely to be overweight, more likely to have high blood pressure, more likely overweight, yes.

Q. Are you aware of statistics, what percent of the adult population in the United States are overweight?

A. Wow. I know that in some states, especially in the South, for children and adolescents, it's around 30 percent, 25 to 30 percent, depending on the state. I can't remember the number for adults, but I do know that it's higher than that.

Q. Do you recall that it's higher in Arkansas than a lot of other places?

A. I wouldn't be surprised given that it is a southern state, but I don't recall the number in Arkansas.

Q. So you testified that being overweight increases the risks of developing blood clots and strokes for someone who is on estrogen?

A. Yes. And we do everything we can to mitigate those factors in our patients. We have physical therapy that we refer them to. We encourage them to increase their activity. We encourage them not to smoke. We have nutrition counseling. So our

patients are actually likely getting an earlier preventive intervention because they are in our clinic and being seen by a healthcare provider than those patients who are not coming into clinic very often, because most adolescents rarely come to the doctor in my clinical experience.

Q. So there was discussion about treatments impairing sexual function. I think your testimony was that puberty blockers -- excuse me. So if you have a natal boy who is starting on puberty blockers around Tanner II, you would expect a pause in the development of any sexual function, right, any further development, I should say?

A. Yes.

Q. Would that include like inability to orgasm, for instance?

A. It depends on if they were orgasming before. In Tanner II you are not going to have an orgasm most likely. Those tend to show up in Tanner III or later.

Q. So for natal males who start puberty blockers around Tanner II and then proceed to hormone treatment, say, with estrogen and androgen blockers, those patients wouldn't be able to orgasm even then. Right? They would never develop that capacity?

A. So if they are at Tanner II and they go on those hormones, they are -- during that period, they may not. There are treatments that are available to add back testosterone, for example, so that there is more development of their sexual parts and allow them to orgasm. And we talk about those things with

our patients.
Q. So, to go back, I think you said that maybe you could add in more medication to address that issue. What was your response to that?
A. Yes. That is one option is to add testosterone back later to change that if the patient desires that later in life.
Q. Other than adding testosterone, is there any other treatment that would allow that sexual function to develop?
A. You know, every patient is different. You know, we talk about it with our patients. They could go off of their blocker if they have been on estrogen for a while. That might not help, but it might if they haven't been on estrogen. And, you know, again, this group of patients doesn't always want to orgasm. A lot of them don't even want to have erections because they don't want to look at their genitals or have much to do with it. So it's not every patient -- not every patient wants to orgasm.
Q. Do you think, say, a natal boy who is Tanner II, has never had an orgasm, can make an informed decision about whether they want to have one in the future?
A. So, you know, Tanner II is the sexual development. It's not where necessarily your cognitive development is at that time, right? If we're pausing puberty, they may be older than the average age of 12 or puberty. The goal is to give them time to develop that cognitive and executive function to be able to make that decision, and it's also something that we talk about

with the parents who have those experiences. And they can talk with their kids about that, and they can talk with their therapist about that. Their mental health providers also help walk through all of these decisions, you know, yeah.
Q. So was your answer to that, yes, you think someone at Tanner II can make an important decision about that?
A. I mean, I have patients who were Tanner II, and they are 24, because they have been on puberty blockers. I think they are making their own decisions just fine.
Q. I hesitate to ask because I don't know if it's relevant. But why would you have someone on puberty blockers at 24?
A. As I mentioned in my prior testimony, there are patients who are very bothered by any possible ongoing development of their genitalia, and they do not want to have any of that change. And they still have their testicles. They haven't gone on to have any gender surgical procedures to remove those. So if you want to control those hormones and not have those effects on your body, then the best way -- you know, the best way is GnRH agonist. So you can swap them out for spironolactone, and sometimes that works. And some patients choose not to take the chance that coming off of GnRH their own body may start puberty again. Also, sometimes spironolactone isn't strong enough.
MR. JACOBS: I think we're nearly done. Could I have a moment, Your Honor?
THE COURT: Yes.

MR. JACOBS: I think I'll pass the witness, Your Honor.

THE COURT: Any redirect?

MR. STRANGIO: Just one question.

REDIRECT EXAMINATION

BY MR. STRANGIO:

Q. Just to clarify something that we were talking about just now, so can a patient be on both puberty blockers and gender-affirming hormones?

A. Yes.

Q. And so for a patient who, say, is continuing on the GnRH agonist until 24, are they receiving other medications as well?

A. They are on gender-affirming hormones, absolutely. They would never be on those by themselves at that age.

Q. Thank you. No further questions.

THE COURT: Any follow-up question, Mr. Jacobs, on that particular question?

RECROSS-EXAMINATION

BY MR. JACOBS:

Q. I guess it would just be -- so when we're talking about the patients who are on both GnRH analogs and --

THE COURT: No. We're talking about this 24-year-old patient that you discussed. That's all we're talking about.

MR. JACOBS: Okay. I don't have any questions about that.

THE COURT: Can we excuse this witness?

MR. STRANGIO: Yes, we can. Thank you.

THE COURT: All right. So what I need for the parties to do is, Mr. Jacobs, I need for you to confirm that you can get your people in this week. If you can't and we're going to have to come back anyway, there's no point in us killing ourselves until eight o'clock every night. So if you could check on that, tomorrow I'll make a decision whether or not we will work until six every night instead of eight o'clock every night. But if we're not going to finish this week and we're coming back anyway, there's no point in going to eight every night.

MR. JACOBS: So I can say at this point, Your Honor, we have confirmed with more than one witness that they are not available next week. We haven't confirmed that with all.

THE COURT: It doesn't matter. As long as we're going to have to come back, we're not going to work from eight until eight because there's no point.

MR. JACOBS: Based on the conversations we've had with witnesses thus far, we don't see a way that all of the witnesses' testimony on our end can happen this week.

THE COURT: That's fair too. I'm not being critical of that. I'm just saying, if we're going to come back, there's no point in us going until eight o'clock and us having the mental lapses and having the breakdowns in concentration that is not beneficial to this case from either side. Everyone is

tired.

MR. JACOBS: I would agree with that, Your Honor. And I think our position would be that there's not at this point a need to go late in the evening. We don't think there's a prospect of the entire case finishing by the end of the week based on witness availability.

THE COURT: And I think that's a different way of answering the question. I was going to say if they couldn't fly in then they weren't going to make it. But even if you could get everybody in, we couldn't finish this week.

MR. JACOBS: I think, based on the limited conversations we've had so far, that's true even without contacting the other two-thirds.

THE COURT: You can confirm that now, you mean. You don't even need for me to wait until tomorrow to confirm that.

MR. JACOBS: I don't think there's a reason for us to contact the other six or seven of our ten scheduled witnesses at this point.

THE COURT: All right.

MR. STRANGIO: The one other thing, Your Honor, I would like to point out, even finishing the two witnesses today, I do think there's a chance, even going regular business hours, that there will be time on Friday for them to at least begin to put on their case. So, if there's any witnesses that can be available that we can take the full week this week, I would ask

you -- I think it would help the development of the case, and maybe we all don't have to come back for a full week the next time.

THE COURT: Well, we're not going to do the eight to eight. We're going to see how far we get tomorrow. It is what it is. So tomorrow morning we're going to start at 8:30. We're going to go to six. We're going to see what we do, and we'll reevaluate, but we're not going to do the eight to eight. That will relieve pressure on my infrastructure.

MR. STRANGIO: I understand that. I was saying, even going nine to six, I do think there's a chance we will finish our presentation of our case by early Friday, so I just wanted to -- or even Thursday. I was just wondering if there could be any witnesses available. That was my only clarification.

THE COURT: I know they have some witnesses that are local. You need to work on the stipulations, too, because either people are going to need to be stipulated that their testimony was a certain way at the legislature, or they need to be here to say it did or didn't. I mean, it's up to them. I don't care if you stipulate to those particular bullet points in the stipulations and there's a witness here to either admit or deny. But they will be subject to testimony if you are not willing to stipulate to their testimony otherwise.

MR. JACOBS: So we're going to review the stipulations. On the point about the end of the week, since

we're going to be reconvening trial at some later point, whether that's sometime in December, as the Court indicated, does the Court have a preference between, if there's space for our witnesses to start on Friday, for that to go ahead and happen? Would you rather all of the witnesses go at one point? I don't think we have a particular preference subject to witness availability.

THE COURT: I can answer that question better when I know when the plaintiffs are done. If we're talking about them finishing Wednesday night or early Thursday morning, then I would have a preference to continue using some of that time to take some of your witnesses. If they finish Friday at lunch, no. I can't answer your question until I know a lot closer.

MR. JACOBS: I think, as a general matter, other than Hutchison and Stambough, who plaintiffs are planning to call in their case in chief, all of our other witnesses are traveling from I think out of the central Arkansas area. I think our plan is to call them again in our case in chief. I think we could potentially do that on Thursday or Friday, and that would be the cleanest way to do it. I think anyone else is going to require scheduling travel. If we don't know until Wednesday or Thursday --

THE COURT: No. I understand what you are saying.

MR. JACOBS: I just wanted to be transparent about that.

THE COURT: Thank you. Is there anything I need to resolve?

MR. STRANGIO: I don't think anything else at this time. I appreciate it.

(Overnight recess at 7:50 p.m.)

REPORTER'S CERTIFICATE

I certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

/s/Elaine Hinson, RMR, CRR, CCR Date: October 24, 2022.
United States Court Reporter