IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

WHOLE WOMAN'S HEALTH, PLANNED PARENTHOOD CENTER FOR CHOICE, PLANNED PARENTHOOD OF GREATER TEXAS SURGICAL HEALTH SERVICE, PLANNED PARENTHOOD SOUTH TEXAS SURGICAL CENTER, ALAMO CITY SURGERY CENTER PLLC, SOUTHWESTERN WOMEN'S SURGERY CENTER, NOVA HEALTH SYSTEMS, INC., CURTIS BOYD M.D., JANE DOE, M.D., M.A.S., BHAVIK KUMAR, M.D., M.P.H., ALAN BRAID, M.D., ROBIN WALLACE, M.D., M.A.S.,	) AU:17-CV-00690-LY
Plaintiffs,	)
v.	) AUSTIN, TEXAS
KEN PAXTON, MARGARET MOORE, NICHOLAS LAHOOD, JAIME ESPARZA, FAITH JOHNSON, SHAREN WILSON, RICARDO RODRIGUEZ JR., ABELINO REYNA, KIM OGG,	)
Defendants.	) NOVEMBER 8, 2017

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TRANSCRIPT OF BENCH TRIAL
VOLUME 5
BEFORE THE HONORABLE LEE YEAKEL

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09:00:48 (Open court)

09:00:48 THE COURT: Is everyone still aware or has there been any changes on your parts as to how we're allocating the time and what we're going to get done today and when we're going to finish up? Are we all on the same page? I don't care what the page is as long as we're all on it.

09:01:11 MR. STEPHENS: Yes. As far as I understand, we're on the same page, Your Honor.

09:01:14 MR. LAWRENCE: Yes, Your Honor.

09:01:15 THE COURT: All right. Then the Attorney General may proceed.

09:01:18 MR. STEPHENS: Your Honor, before we call our next witness, we wanted to offer Defendants' Exhibits 2, 3, and 4. And it's our understanding there's no objection to those, but I'll let counsel speak to that.

09:01:32 THE COURT: Defendants' Exhibits 2, 3, and 4?

09:01:34 MR. STEPHENS: Yes, Your Honor. They're photographs on the exhibit list.

09:01:36 MR. LAWRENCE: No objection, Your Honor.

09:01:38 THE COURT: All right. Then Defendant's Exhibits 2, 3, and 4 are admitted.

09:01:48 MR. STEPHENS: Your Honor, the State is going to call Dr. Curtis Boyd by deposition, and I am hoping we have it set up today to work smoothly. But it will be by video with the transcript as well.

09:01:56

09:01:59 THE COURT: Well, as I've told you before, you're
09:02:01 better off when we have these hitches when you're having a
09:02:04 bench trial because my experience in talking to juries after
09:02:08 trials is they are completely unforgiving if you can't work the
09:02:14 electronics. They actually, I think, punish the lawyers. But
09:02:17 since I know that I'm on this side of the bench because I
09:02:23 couldn't possibly learn how to work this, I take a little bit
09:02:26 open approach.
09:02:27 So you may proceed. This is Curtis Boyd? Is that
09:02:29 who we have?
09:02:30 MR. STEPHENS: Yes, Your Honor.
09:02:31 THE COURT: All right.
09:02:34 (Video played)
09:02:34 THE VIDEOGRAPHER: Here begins the videotaped
09:02:36 deposition of Curtis Boyd in the matter of Whole Woman's Health
09:02:40 et al., v. Ken Paxton et al., per the United States District
09:02:45 Court, Western District of Texas, Austin, held in the offices
09:02:52 of OAG at 1412 Main Street, Suite 810, Dallas, Texas.
09:03:08 (Witness sworn)
09:03:08 **CURTIS BOYD, M.D.,**
09:03:08 having been first duly sworn, testified by video deposition as
09:03:08 follows:
09:03:08 **EXAMINATION**
09:03:08 **BY MR. STEPHENS:**
09:03:08 Q. Have you read the law that's at issue in the lawsuit?

09:03:15 A. Yes.
09:03:16 Q. And what procedures do you use for second-trimester
09:03:19 abortions that you believe would be prohibited?
09:03:24 A. I cannot produce fetal demise with the forceps.
09:03:31 Q. And what is -- what is digoxin?
09:03:34 A. It -- it's often used in treatment of heart -- heart
09:03:40 disease. It's a medication that will -- that will stop the
09:03:44 heart when -- when given into the uterus.
09:03:50 Q. Okay. So -- so how -- how is that a means of causing
09:03:55 fetal demise in a second-trimester abortion?
09:03:58 A. Well, you inject it into the fetus, and it will cause the
09:04:04 fetal heart to stop.
09:04:06 Q. Okay. That's something you've done before?
09:04:08 A. Yes.
09:04:09 Q. Okay. How do you -- you said you inject it --
09:04:14 A. Yes.
09:04:14 Q. -- is that right?
09:04:16 So you use a syringe? a needle?
09:04:18 A. A needle. A long needle.
09:04:20 Q. Do you -- how do you do the injection? Where in the body
09:04:25 or on the body?
09:04:26 A. It can be what is called transabdominal, through the
09:04:31 abdomen, into the uterus. Or it can be done transvaginally.
09:04:39 But you go take the needle through the vagina and into the
09:04:44 uterus.

09:04:46 Q. Okay. And you -- you inject it into the -- the digoxin
09:05:00 into the fetus?
09:05:01 A. That's my preferred method. You can inject it into the
09:05:05 amniotic fluid.
09:05:06 Q. Okay. How -- how do you -- how do you know if you're
09:05:11 hitting the fetus?
09:05:12 A. Sonographic guidance. You know, a sonogram.
09:05:17 Q. Oh. So you do the laminaria, and then you do the digoxin
09:05:22 injection and you're watching?
09:05:25 A. Yes.
09:05:25 Q. You -- there's sonogram. Is there somebody else helping
09:05:30 with the sonogram?
09:05:31 A. Yes.
09:05:31 Q. And so you're watching on the sonogram?
09:05:33 A. Yes.
09:05:34 Q. To see where the needle goes?
09:05:36 A. Yes.
09:05:36 Q. When did you first do a digoxin injection?
09:05:40 A. A number of years ago. Could have been eight. So you can
09:05:49 learn. It's something that can be taught. It can be learned.
09:05:54 Q. Okay. How -- like when -- so you did yours, you'd say,
09:06:00 about eight years ago when you first learned?
09:06:02 A. Yeah. I'm estimating. I don't remember all these dates.
09:06:05 I'm an old man. I forget the dates on things, but it's been
09:06:10 quite a few years ago.

09:06:13 Q. Yeah. When you -- when you first learned, how did you
09:06:17 learn?
09:06:18 A. I read. I looked at drawings. And then I had a -- then
09:06:31 Dr. Sella, who is a doctor that works with us, I had her to --
09:06:35 she walked me through at the beginning, so I learned to -- to
09:06:40 do them proficiently after a few attempts.
09:06:49 Q. So we were talking about when you learned to do digoxin,
09:06:52 when you did your first injection. And I think you said you --
09:06:56 you read about it, you looked at some images. Like what kind
09:07:01 of images?
09:07:03 A. Well, drawings.
09:07:05 Q. Oh, okay.
09:07:06 A. In books, yeah. And I had an understanding of what needed
09:07:15 to be done.
09:07:18 Q. I see. So -- and what you read, was that like medical
09:07:23 literature or textbooks or ...
09:07:26 A. Yeah. At meetings -- medical meetings you have. And
09:07:32 the -- but that would be where we got it. And then the doctor
09:07:39 talking with the doctor who -- to find out how -- how you do
09:07:42 it.
09:07:43 Q. Okay.
09:07:48 A. But I -- I've done this for a while. I'm more -- I have
09:07:56 good skills.
09:07:57 Q. Yeah. You mean, like -- like, technical skills to do --
09:08:00 A. Yes.

09:08:01 Q. -- an injection. Okay.
09:08:04 Do you know what books you would look at or that you
09:08:07 looked at? Is there some textbook, like *Netter's* or something?
09:08:11 A. No. It is all relatively new medicine.
09:08:14 Q. How did Dr. Sella help you learn to do a digoxin injection
09:08:19 when you first learned?
09:08:20 A. We did several together. And then she was available
09:08:25 anytime I needed her to assist.
09:08:32 Q. Do you know the term in medicine "see one, do one"? Have
09:08:37 you heard of that?
09:08:37 A. Yes.
09:08:38 Q. Is that -- is that -- would that be something you could --
09:08:42 you would use to describe how you learned to do digoxin?
09:08:45 A. Not really, no.
09:08:47 Q. Okay.
09:08:52 A. We're more thorough. I'm much more meticulous and
09:08:57 demanding.
09:08:58 Q. So when you learned, you worked more closely, did more
09:09:01 research; is that right?
09:09:03 A. Well, multiple, multiple trials, multiple procedures.
09:09:09 Q. Okay.
09:09:14 A. Under supervision.
09:09:23 Q. Do you recall why you decided to start using digoxin?
09:09:28 A. Well, digoxin is -- is beneficial in the more advanced
09:09:42 cases, I mean, if you want to produce fetal demise ahead of

09:09:50 time. So that's -- so there's -- that's -- that would be the
09:09:56 routine. It's not really needed until around 25 weeks.
09:10:02 Q. Okay. I'm still -- I'm not quite understanding, though.
09:10:08 So you -- why -- why did you decide to use digoxin?
09:10:17 A. Well, the federal law, the partial-birth abortion forced
09:10:27 that.
09:10:35 Q. Okay.
09:10:35 A. And you don't -- and, also, you -- you don't want to have
09:10:39 expulsion of a live fetus. So the injection gives you fetal
09:10:43 demise. You're doing it to create fetal demise.
09:10:46 Q. Okay. So you did the digoxin to induce fetal demise?
09:10:51 A. Yes.
09:10:51 Q. And when you started using digoxin, what gestation age
09:11:05 were you using it?
09:11:07 A. Twenty-four weeks, approximately.
09:11:09 Q. Okay. And is that LMP?
09:11:12 A. Uh-huh.
09:11:12 Q. Twenty-four LMP?
09:11:14 A. Yes.
09:11:14 Q. Have you ever trained a doctor to do an abortion below
09:11:20 20 weeks and used digoxin in the course of that training?
09:11:24 A. I do not.
09:11:25 Q. Okay.
09:11:27 A. I don't recommend that.
09:11:29 Q. Okay. Are you aware of other doctors that use digoxin

09:11:33 below 20 weeks?
09:11:34 A. Some doctors do.
09:11:39 Q. Okay. Any doctors you've worked with?
09:11:42 A. I think occasionally, I've, you know ...
09:12:01 Q. Okay.
09:12:02 A. But no one now. Everyone has abandoned that.
09:12:05 Q. So some doctors that you worked with used to do it
09:12:08 below 20?
09:12:09 A. Uh-huh.
09:12:10 Q. "It" being digoxin?
09:12:12 A. (Nods)
09:12:13 Q. Do you recall their names?
09:12:18 A. No. Well, Dr. Sella would be one.
09:12:26 Q. Oh. She's somebody that -- that does digoxin below 20
09:12:32 weeks?
09:12:32 A. Not now.
09:12:33 Q. But did?
09:12:33 A. But at one time she did.
09:12:35 Q. Okay. Any others?
09:12:37 A. No. I think that would be the only one.
09:12:48 Q. Do you know why she did digoxin below 20 weeks?
09:12:52 A. No good reason.
09:13:04 Q. You -- you don't think there's a reason?
09:13:06 A. No.
09:13:07 Q. Do you think digoxin is safe?

09:13:10 A. That's a relative question. It has side effects and
09:13:19 complications, but it's practiced. When it's indicated, it's
09:13:29 worth doing.
09:13:30 Q. Okay. When is it indicated?
09:13:32 A. In more advanced pregnancies where you desire to
09:13:36 produce ...
09:13:42 Q. And so is it safe for the patient in procedures in which
09:13:49 it's indicated?
09:13:51 A. When it's the risk-benefit ratio. So you look at the risk
09:13:55 versus the benefit. So the doctor makes his judgment based on
09:13:59 that. Is the benefit greater than the risk?
09:14:04 Q. Okay. So I -- is it fair to say that, at the later
09:14:08 gestation ages in which you've used digoxin, the benefits
09:14:13 outweigh the risks?
09:14:18 A. Yes.
09:14:18 Q. Okay. What are the benefits of using digoxin?
09:14:30 A. The fetal demise helps to prepare the uterus for
09:14:41 expulsion. So the -- so the dilating of the cervix, it may
09:14:47 make the -- in these greater pregnancies easier to remove the
09:14:51 fetus from the uterus or easy to expel it because of the fetal
09:14:56 demise.
09:14:58 Q. Okay. Okay. So that's one of the benefits. Are there
09:15:13 any others?
09:15:18 A. No. That would be the reason you would -- you would use
09:15:20 it. And to produce fetal demise before birth to comply --

09:15:26 certainly to comply with the partial-birth abortion law.
09:15:33 Q. So inducing fetal demise is another of the benefits?
09:15:37 A. Yes.
09:15:37 Q. Would digoxin also make a second-trimester abortion
09:16:04 procedure easier at, say, 23 weeks LMP?
09:16:08 A. For me, no.
09:16:13 Q. Do -- do you think it would -- it could make it easier for
09:16:26 other physicians?
09:16:27 A. Yes.
09:16:28 Q. Okay. What about at 20 weeks LMP?
09:16:33 A. Yes.
09:16:37 Q. Okay. What about at 18 weeks? Could it make it easier at
09:16:42 18?
09:16:42 A. No difference, in my opinion. No benefit, in my opinion.
09:16:46 Q. Okay. So the line as to the benefit of making the
09:16:49 procedure easier for you is what -- 20? 19?
09:16:57 A. Twenty weeks.
09:16:58 Q. Twenty weeks?
09:16:59 A. (Nods)
09:17:00 Q. Okay. So it wouldn't, in your opinion, make the procedure
09:17:03 easier at 19?
09:17:04 A. No.
09:17:04 Q. What characteristics of the -- of the procedure at --
09:17:14 would make digoxin -- would lead you to believe that digoxin
09:17:35 makes the procedure easier at 20 weeks but not 19 weeks LMP?

09:17:39 A. The size of the fetus. And then it's arbitrary. You have
09:17:52 to draw a line somewhere. So, you know, you make your best
09:17:56 clinical judgment --
09:17:57 Q. Okay.
09:17:58 A. -- as to where the benefit is. That's -- so not everyone
09:18:03 agrees with me.
09:18:04 Q. I see. Okay. So -- so it's the -- it's the physical
09:18:09 characteristics of the --
09:18:10 A. Yes.
09:18:10 Q. -- of the fetus?
09:18:11 A. Yes.
09:18:11 Q. Size of the fetus?
09:18:13 A. Yes.
09:18:13 Q. So we were talking about the risks versus the benefits of
09:18:18 using digoxin. What -- what are some of the risks that you
09:18:27 would weigh in -- in balancing those risks and benefits?
09:18:33 A. It can cause tachycardia, nausea, vomiting, dizziness,
09:18:40 faintness, such things as that. And, I mean ...
09:18:50 Q. You take note of serious complications.
09:18:53 A. Well, I'd notice if they'd had an effect like tachycardia,
09:18:58 nausea -- they get nauseated, vomiting, you know, dizzy.
09:19:03 Those -- those symptoms. I see they're having symptoms. Not
09:19:08 reportable symptoms, but symptoms that they bring to my
09:19:12 attention or I take note of.
09:19:14 Q. Okay. And -- and --

09:19:16 A. It can cause premature expulsion. So, you know ...
09:19:20 Q. Okay. Which ones would not be mild that you would put in
09:19:24 the chart? Which complications from digoxin?
09:19:28 A. Well, if she should have persistent tachycardia, shortness
09:19:38 of breath. We would take note that it caused her to have an
09:19:47 unscheduled expulsion of the pregnancy.
09:19:50 Q. Okay. Okay. Could those symptoms that you just referred
09:20:14 to as being associated with digoxin also be caused by other
09:20:21 things in the course of the abortion procedure?
09:20:24 A. Yes.
09:20:24 Q. Okay. Like what other causes could there be?
09:20:30 A. Intravenous anesthetic agents, bleeding, fear, and
09:20:48 anxiety.
09:20:50 Q. Okay. Could laminaria -- do laminaria also sometimes
09:20:54 cause those similar complications or symptoms?
09:20:59 A. Usually not, in my experience.
09:21:01 Q. Okay. Have you ever had extramural deliveries in cases in
09:21:08 which you have not administered digoxin?
09:21:10 A. Yes.
09:21:10 Q. Okay. What about nausea -- for the patient having nausea?
09:21:23 A. Yes.
09:21:23 Q. Okay. Dizziness?
09:21:26 A. Yes.
09:21:26 Q. I'm going to try to say this word.
09:21:32 A. Yeah.

09:21:32 Q. *Ta-cardia*?
09:21:34 A. Yes. Tachycardia.
09:21:35 Q. Tachycardia?
09:21:36 A. Yes.
09:21:36 Q. Some of those things could also be caused by pregnancy,
09:21:40 too, right?
09:21:40 A. Yes.
09:21:41 Q. Okay. When did you start performing abortions?
09:21:48 A. Well, in 1968.
09:21:54 Q. How many abortions did you perform, say, in the first five
09:22:01 years were in Athens? Do you recall?
09:22:11 A. It would have been probably two years in Athens. I moved
09:22:19 to Dallas. But I did not keep numbers, so probably 5,000 a
09:22:35 year.
09:22:37 Q. Going back to, I guess, when you were in Athens or
09:22:42 actually maybe before, who taught you how to perform an
09:22:46 abortion?
09:22:47 A. I'm self-taught. There was no one.
09:22:49 Q. Right. How did you self-teach yourself?
09:22:55 A. Well, I have to be careful. I don't want to seem
09:23:11 egotistical. But I have a good brain and I have good hands,
09:23:17 and I'm very critical -- self-critical and introspective, and I
09:23:23 read. And I have done -- in my training I took care of
09:23:34 innumerable abortion complications, hundreds of patients, at
09:23:37 John Peter Smith. Other people didn't always want to do the

09:23:41 work. I wanted to do it. I felt compassion for those women.
09:23:48 Q. Okay. So you were -- you were self-taught. What --
09:23:54 what -- what was the -- what did the procedure entail when you
09:23:58 first started? How did you perform it?
09:24:02 A. Well, the first barrier is the cervix. So I had to find a
09:24:11 way to safely get into the uterus. So I had to learn to dilate
09:24:17 the cervix effectively and then to empty the uterus. There was
09:24:24 no laminaria, no misoprostol, no sono, no vacuum aspiration.
09:24:33 It was different. So, basically, it was to dilate the cervix,
09:24:41 and I had to evacuate the uterus with a curette.
09:24:44 Q. Okay. So what gestational ages were you doing when you
09:24:49 first started?
09:24:49 A. Up to 10 weeks.
09:24:54 Q. Okay. So you weren't using forceps. You were just
09:24:59 using --
09:24:59 A. No.
09:25:00 Q. -- a curette?
09:25:01 A. No forceps.
09:25:03 Q. Okay. When did you start performing abortions above
09:25:08 10 weeks, LMP?
09:25:09 A. Within a few months.
09:25:18 Q. Okay. And how -- how did you perform those procedures?
09:25:24 A. It would be the -- the same through 12 weeks.
09:25:29 Q. Oh. A curette up to 12 weeks?
09:25:40 A. Yes.

09:25:42 Q. Okay. And then at some point did you start performing
09:25:50 procedures above 12 weeks?
09:25:52 A. Yes. I observed I could do that.
09:25:55 Q. Okay. And when was that?
09:26:01 A. During that first two years. I don't really know when,
09:26:05 but I -- as I did the procedures, I realized there's -- I was
09:26:11 learning new things, things that weren't known before and
09:26:15 weren't thought possible before. But I was doing them safely
09:26:19 and successfully.
09:26:24 Q. Okay. So you gradually learned to perform abortion
09:26:29 procedures at higher gestation ages?
09:26:32 A. Yeah. Uh-huh.
09:26:34 Q. At what gestation age did you start doing something other
09:26:40 than using just the curette?
09:26:42 A. Fourteen weeks.
09:26:58 Q. Okay. Okay. And what did you start -- what did you do at
09:27:02 14 weeks?
09:27:03 A. It's -- sometimes the curette is not successful, so I
09:27:13 realized I had -- what am I going to do? I had to get a
09:27:17 small -- I had modified a small ring forceps. You had to get
09:27:21 something small enough to go in the uterine cavity because I'm
09:27:29 mechanically dilating. So I had to find something to go in the
09:27:32 uterus that was no larger than what I could dilate the cervix.
09:27:38 And, you know, had the -- so I had them modify the machine to
09:27:43 get what I needed. So it -- it worked initially. It's the

09:27:47 best I -- the best that existed.
09:27:49 Q. Oh. So you used forceps?
09:27:52 A. Forceps.
09:27:52 Q. Okay. And at s time you were mechanically dilating?
09:27:55 A. Yes.
09:27:55 Q. Like you said, there weren't laminaria.
09:28:05 A. Laminaria.
09:28:05 Q. Did -- did you continue to train yourself to provide
09:28:32 abortions at higher gestation ages?
09:28:34 A. Yes.
09:28:35 Q. Okay. And was there a time when you decided you wanted to
09:28:47 teach other people to perform abortions?
09:28:50 A. Eventually I did teach other people.
09:28:53 Q. Okay. Do you recall approximately when you first trained
09:28:57 someone else?
09:28:58 A. 1974.
09:29:04 Q. Okay. So you had been performing abortions for about
09:29:06 eight years --
09:29:07 A. Yeah.
09:29:08 Q. -- at that point?
09:29:09 A. Uh-huh.
09:29:09 Q. And you -- did you train someone else in Dallas?
09:29:12 A. I opened the Fairmount Center in Dallas. I trained people
09:29:17 there. That was after Roe v. Wade.
09:29:20 Q. Dr. Boyd, before the break we'd been talking a little bit

09:29:27 about when you were performing abortions in the late '60s and
09:29:33 '70s --
09:29:34 A. Uh-huh.
09:29:35 Q. -- earlier in your career. Do you recall that?
09:29:37 A. Yes. Yes.
09:29:38 Q. At the time were those new procedures that you were using?
09:29:42 A. Well, some of them. This is a new area of medicine.
09:29:52 Q. Okay. So not a lot of other people were doing those types
09:29:56 of procedures for abortions at the time?
09:29:59 A. True.
09:30:04 Q. Was there literature about -- journal articles or
09:30:14 textbooks about how to perform abortion procedures at that
09:30:18 time?
09:30:18 A. No.
09:30:19 Q. Okay. I think you said -- and correct me if I'm wrong --
09:30:24 that in the mid 70s they -- you were -- you'd started to
09:30:30 perform procedures up to, say, 14 weeks LMP?
09:30:34 A. Uh-huh.
09:30:34 Q. Is that about right?
09:30:36 A. Yeah. Up to 16.
09:30:38 Q. Okay. You went up to 16?
09:30:41 A. Yes.
09:30:43 Q. So you gradually trained yourself to go to higher
09:30:49 gestation ages; is that right?
09:30:50 A. Yes.

09:30:51 Q. Okay. How did you learn to -- to do that, to go to higher
09:31:00 gestation ages?
09:31:01 A. Being a very careful observer and being -- being aware of
09:31:11 what could be done.
09:31:13 Q. Was there a time when you tried other types of procedures
09:31:22 for performing abortions?
09:31:24 A. Curettage.
09:31:32 Q. Okay. Did -- like -- like suction? Did you start using
09:31:37 suction at some point in time?
09:31:38 A. When it was available. That did not exist.
09:31:41 Q. Right.
09:31:43 A. Once it became available, I began to use suction -- vacuum
09:31:47 aspiration, yeah.
09:31:48 Q. Okay. How -- how did it become available?
09:31:51 A. It was manufactured by Berkeley in California.
09:31:56 Q. Do you know about when?
09:31:58 A. I -- I don't know. Late '60s, '70. It would be available
09:32:10 in the literature. I don't know when the -- the first year it
09:32:14 came on the market.
09:32:14 Q. So Berkeley, you mean -- was it the university or a
09:32:20 medical manufacturer?
09:32:21 A. Medical manufacturer.
09:32:23 Q. Okay. So they developed a -- a device to be used for
09:32:26 suction in the course of abortion?
09:32:33 A. Yes.

09:32:34 Q. Okay. And when did you -- well, I think you said late
09:32:39 '60s, early '70s; is that right?
09:32:41 A. Yes.
09:32:42 Q. Did you buy one of the machines?
09:32:46 A. Yes.
09:32:46 Q. Okay. How did you learn how to use it?
09:32:51 A. Well, instructions are with it, you know.
09:32:56 Q. So it came with, like, a written book or something?
09:33:01 A. Yes. Yes.
09:33:03 Q. So you -- you did it -- you didn't have to be trained to
09:33:09 use the suction procedure?
09:33:17 A. Well, there was no one to train me.
09:33:19 Q. Okay.
09:33:20 A. I probably got the first one in the state of Texas.
09:33:23 Q. It was a new -- the suction procedure was new at the time?
09:33:28 A. Yes. Yes.
09:33:29 Q. Okay. Both to you -- or to you it was new?
09:33:33 A. Yes.
09:33:33 Q. When -- when did you start using methods for dilation
09:33:59 other than mechanical dilation?
09:34:09 A. I'm not sure. In '69 laminaria first came into the
09:34:30 country from Japan, probably. Once I could get them, I began
09:34:37 using those.
09:34:37 Q. Okay. All right. Before we talk more about laminaria,
09:34:45 maybe I should just ask it more broadly. But, after you

09:34:49 started using suction, what was the next method of abortion
09:34:53 that you used -- or new method?
09:35:00 A. The use of forceps.
09:35:02 Q. Okay. So you went from using a curette to using suction
09:35:14 to then using forceps?
09:35:16 A. Forceps, yes.
09:35:18 Q. Oh. How did you learn about laminaria as a means for
09:35:23 causing -- for dilation?
09:35:24 A. I'd read about them, and there were news reports of their
09:35:37 exist -- of their use in Japan.
09:35:40 Q. Okay. So they were used for -- for dilation in Japan and
09:35:46 then brought to the market in the U.S.?
09:35:49 A. Yes.
09:35:49 Q. And how did you learn to use laminaria for dilation?
09:35:55 A. I'd read information from their use in Japan. Dr. Hanson
09:36:06 was using them. I talked with Dr. Mildred Hanson. She had
09:36:14 brought them from Japan, and I got them from her.
09:36:17 Q. Okay. Were there -- were they -- were laminaria being
09:36:23 widely used in the U.S. at the time?
09:36:25 A. No.
09:36:25 Q. And you may have said this, but did Dr. Hanson show you
09:36:30 how to use the laminaria?
09:36:33 A. No.
09:36:34 Q. You just taught yourself?
09:36:36 A. Yes.

09:36:36 Q. Okay. The -- in the '70s were forceps widely used for
09:36:42 abortion procedures?
09:36:44 A. No.
09:36:49 Q. What about in the '80s? Were forceps widely used for
09:36:55 abortions in the '80s?
09:36:57 A. Yes. More.
09:37:01 Q. Have you ever done an intrafetal injection of potassium
09:37:10 chloride?
09:37:11 A. No.
09:37:11 Q. Have you ever transected an umbilical cord prior to using
09:37:24 forceps to extract the fetus?
09:37:34 A. No.
09:37:35 Q. Okay. Do you know how to do that?
09:37:39 A. Yes.
09:37:40 Q. Okay. How -- how would you go about transecting the
09:37:47 umbilical cord before using the forceps to perform -- or remove
09:37:53 the fetus?
09:37:58 A. You can use suction to bring -- to attempt to bring the
09:38:10 cord down, which is not always successful. So then you might
09:38:14 have to use forceps to bring it down, which also might not
09:38:18 always be successful.
09:38:19 Q. Okay. Well, can you give me an estimate of what
09:38:33 percentage of the time you'd be able to -- to successfully
09:38:37 transect the umbilical cord using those means?
09:38:41 A. Again, I don't use them, so I don't have no experience

09:38:45 with that.
09:38:45 Q. Okay. But -- but you've done that -- you've done it
09:38:48 before, right? That wasn't a very good question.
09:38:53 A. No.
09:38:54 Q. You transected the umbilical cord before performing or
09:38:59 using the forceps to perform an abortion procedure?
09:39:03 A. No.
09:39:03 Q. No?
09:39:04 A. I do not do that.
09:39:05 Q. Okay. Have you ever?
09:39:06 A. No.
09:39:07 Q. At what gestation age -- up to what gestation age do you
09:39:16 use suction in the procedure -- the abortion procedure?
09:39:27 A. That's variable. Almost always through 14 weeks. Fifteen
09:39:40 and 16 weeks, unpredictable. Fourteen weeks can be
09:39:51 unpredictable if you can't dilate the cervix.
09:39:54 Q. But when you say "unpredictable," what do you mean by
09:39:58 that?
09:40:00 A. You cannot complete the procedure with the suction.
09:40:10 Q. Okay. So between 14.0 and 14.6, you're not always going
09:40:15 to be able to use only suction?
09:40:18 A. That's true.
09:40:19 Q. What if you're not able to complete it with suction
09:40:24 between 14.0 and 14.6? What do you do next?
09:40:28 A. I go to very small forceps that I have.

09:40:31 Q. Well, what size suction cannula do you use?
09:40:36 A. There are many different sizes.
09:40:41 Q. Oh, okay.
09:40:43 A. Six-, 7-millimeter to 16-millimeter.
09:40:46 Q. Okay. Do you -- how do you decide which one to use --
09:40:52 which size to use?
09:40:53 A. Based on the pregnancy, how long -- how many weeks
09:40:58 pregnant.
09:40:58 Q. So 14 LMP, what size do you use?
09:41:02 A. Fourteen.
09:41:03 Q. Okay. 14-millimeter?
09:41:05 A. Yeah.
09:41:06 Q. 15 LMP?
09:41:08 A. Sixteen-millimeter.
09:41:09 Q. You use a 16-millimeter. And then 16 LMP?
09:41:15 A. Sixteen-millimeter.
09:41:16 Q. You use a 16-millimeter. Okay. So -- is it fair to say
09:41:22 that the size cannula roughly corresponds to the gestation age
09:41:27 and the millimeters of the cannula?
09:41:29 A. Yes.
09:41:30 Q. All right.
09:41:38 A. Doctors vary in their decisions.
09:41:43 Q. Are you familiar -- do you still own Southwestern?
09:41:46 A. Yes.
09:41:47 Q. Okay. Is it -- are you the sole owner?

09:41:54 A. My wife and I.
09:41:55 Q. Okay. So you-all -- you and Dr. Wallace collaborated in
09:42:05 developing policies, procedures --
09:42:07 A. Uh-huh.
09:42:07 Q. -- for Southwestern?
09:42:08 A. Yes.
09:42:09 Q. Do you -- you're -- do you have knowledge or are you aware
09:42:19 of what the policies and procedures are currently at
09:42:23 Southwestern for abortions?
09:42:25 A. In general. I don't know all the details.
09:42:30 Q. Right. Did you participate in the developing those
09:42:37 policies and procedures?
09:42:39 A. Yes.
09:42:39 Q. Is there a manual or guidelines book that includes the
09:43:09 standards for providing abortions at Southwestern?
09:43:12 A. We have protocols and standards. I'm not sure if we
09:43:24 have -- if you'd call it a book. We have protocol -- it's all
09:43:27 written and filed protocols, procedures, standards.
09:43:32 Q. Okay. Does that -- do they include the use and
09:43:39 administration of digoxin?
09:43:42 A. Yes.
09:43:42 Q. Okay. And what are the protocols or standards that apply
09:43:45 at Southwestern for the use or administration of digoxin?
09:43:48 A. Twenty weeks, zero days and up we give digoxin. Below 20
09:43:58 weeks we do not give digoxin.

09:43:59 Q. Okay. And the doctors at Southwestern, to your knowledge,
09:44:08 comply with that --
09:44:10 A. Yes.
09:44:10 Q. -- policy?
09:44:11 A. Yes. They comply.
09:44:13 Q. Do you know how often digoxin or, in your personal
09:44:37 experience, how often have you seen digoxin failed to cause
09:44:40 fetal demise?
09:44:42 A. I'm not sure the number. We just did a compilation, so
09:44:50 you'll be getting that. I don't remember how many. There
09:44:54 were -- I think there were four failures out of 100, but don't
09:45:03 hold me to that. I don't know. It's in it's in the -- the
09:45:09 State asked for that and we --
09:45:10 Q. Yeah.
09:45:11 A. -- sent it. You may not have receive it yet, but it's --
09:45:16 Q. I think we did.
09:45:17 A. -- a chart review. We did a chart review.
09:45:19 Q. Okay.
09:45:19 A. A lot of charts.
09:45:21 Q. So you-all went back and looked through all of your
09:45:23 medical files to identify procedures where digoxin did not
09:45:26 cause fetal demise?
09:45:27 A. Yes.
09:45:28 Q. Did you also produce to the State patient files for any
09:45:33 complications that occurred in procedures involving digoxin?

09:45:39 A. Yes.
09:45:39 Q. Do you administer a paracervical block prior to insertion
09:45:50 of the laminaria?
09:45:51 A. Yes. Paracervical block.
09:45:53 Q. The technical skill that's required to perform a D&E is
09:46:10 greater than the technical skill required to do digoxin
09:46:12 injection. Is that -- would you agree with that?
09:46:16 A. Yes.
09:46:16 Q. Okay. In other words, in nonmedical-convoluted terms, is
09:46:32 it easier to do digoxin injection than it is to perform a D&E
09:46:36 procedure?
09:46:38 A. I think so.
09:46:39 Q. Why -- why so?
09:46:42 A. Well, getting adequate cervical dilatation and working
09:46:53 with the forceps requires more -- more skill, more experience;
09:46:59 longer to teach.
09:47:00 Q. Okay. So do you think that if a -- a physician is capable
09:47:11 of performing an abortion using forceps, that physician would
09:47:18 also be able to do a digoxin injection?
09:47:21 A. They may be able to learn to do that.
09:47:24 Q. Learn to do it?
09:47:25 A. Yeah.
09:47:26 Q. And we talked earlier --
09:47:28 A. It's not simple. I'm not ...
09:47:31 Q. Right. It's not -- it's not simple to learn, but not

09:47:36 difficult to learn for someone who has the skill to do -- who
09:47:39 already has the skill to do an abortion procedure involving
09:47:42 forceps?
09:47:44 MS. CREPPS: Objection as to form.
09:47:44 A. It's a different skill.
09:47:46 Q. Different skill?
09:47:46 A. Different skill, yeah.
09:47:48 Q. Could you teach me to do a digoxin injection?
09:47:52 A. No. I wouldn't undertake that. You might be able to.
09:47:57 I'm not saying it's not possible. I don't know how -- how good
09:48:01 your hands are and your hand-eye coordination and assuming --
09:48:05 assuming it was legal.
09:48:07 Q. Yeah.
09:48:07 A. But I would not undertake --
09:48:08 THE COURT: The Court will take judicial notice of
09:48:11 this.
09:48:13 A. There's a lot of anatomy there, and it's -- you know, the
09:48:16 screen is fuzzy.
09:48:17 Q. Do you think you could train a physician assistant to
09:48:20 safely administer a digoxin injection prior to a
09:48:24 second-trimester abortion?
09:48:25 A. I've never done that. I don't know that anyone has been
09:48:29 trained to do that.
09:48:30 Q. Do you-all -- do you have a PA? Do you have PAs?
09:48:34 A. Yeah. We have RNs, PAs, nurse practitioners. I've never

09:48:39 taught any of them to do this. One, it's illegal in Texas.
09:48:43 But putting aside the illegality, it's -- I mean, I'm a
09:48:50 teacher. So I think if you have a good student, a good
09:48:55 teacher, you can accomplish all sorts of things. But you've
09:48:59 got to have a good student, a good teacher, and enough
09:49:02 repetitions. And I don't know how fast anyone is going to
09:49:06 learn. It might take you a year to learn to do it. if we set
09:49:10 out to do it, I would teach you to do it, probably. It might
09:49:13 take me a year, whatever it took, I mean, if we were committed.
09:49:17 But I'm not saying it's *[unintelligible]*.
09:49:18 Q. Do you -- how many PAs do you -- physician assistants do
09:49:24 you have at Southwestern?
09:49:26 A. We don't have any PA there now.
09:49:30 Q. Okay. You have LVNs?
09:49:32 A. All RNs.
09:49:33 Q. RNs?
09:49:34 A. All RNs.
09:49:35 Q. What -- what role do they perform during second-trimester
09:49:38 abortion procedures?
09:49:42 A. Quite often they're doing the sonography. They see to
09:49:55 medicating -- the medicating and the supervising, monitoring
09:50:02 the patient that's been medicated. They're in charge of the
09:50:08 recovery room. They're doing -- they're in the lab. So
09:50:15 they're -- they supervise all -- all areas. All clinical areas
09:50:22 are supervised by an RN -- the surgery floor, the recovery

09:50:27 room, in the front, the lab, and sonography.
09:50:30 Q. Okay. Do they handle instruments during an abortion --
09:50:36 second-trimester abortion procedure?
09:50:38 A. Unless it's setting up the tray or getting an instrument
09:50:42 for the doctor. I mean, they don't do any -- they don't do any
09:50:46 procedure, no.
09:50:48 Q. Would that PA have the requisite technical skill to
09:50:51 administer a digoxin injection?
09:50:54 A. I would not recommend it.
09:50:58 Q. Okay.
09:50:59 A. Too much -- too much risk.
09:51:01 Q. How long would it take you to train him or her to do a
09:51:07 digoxin injection?
09:51:08 A. I don't know. I've never done it. I'd have to think
09:51:12 about it.
09:51:17 Q. A day or so?
09:51:20 A. Huh?
09:51:20 Q. A day or so?
09:51:22 A. Oh, no, no, no.
09:51:23 Q. Five days?
09:51:24 A. I don't know because I've never done it. I don't know how
09:51:29 successful they would be --
09:51:30 Q. Okay.
09:51:32 A. -- you know.
09:51:33 Q. Do you know of any other abortion facilities or clinics

where physician assistants or nurse practitioners perform digoxin injections?

A. I do not.

Q. Do you -- do you know approximately how many abortions you've performed in your career?

A. Remember, I'm 80 years old. I've been doing this work for 50 years. Over 100,000.

(Video stopped)

MS. ARDOLINO: Emily Ardolino for Attorney General Ken Paxton, and we call Colleen -- Dr. Colleen Malloy.

(Witness sworn)

COLLEEN MALLOY, M.D.,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. ARDOLINO:

Q. Good morning, Dr. Malloy. Can you please state your name.

A. Colleen Malloy.

Q. Okay. What is your occupation?

A. I am a neonatologist.

Q. And what does a neonatologist do?

A. Takes care of and cares for critically ill newborns or preterm neonates.

Q. Okay. Where do you work?

A. I work Feinberg -- Northwestern University Feinberg School of Medicine and Lurie Children's Hospital.

09:53:53 Q. You mentioned that neonatologist cares for preterm
09:53:58 newborns. What's a preterm newborn?
09:54:01 A. Prematurity is defined as anything less than 37 weeks.
09:54:08 Q. Okay. How much of your time do you spend treating
09:54:16 patients?
09:54:16 A. My -- I have about 75 percent clinical time in my academic
09:54:27 appointment.
09:54:27 Q. What do you do the other 25 percent of the time?
09:54:30 A. Administrative work and teaching.
09:54:37 Q. Okay. What type of administrative work do you do?
09:54:40 A. I'm one of the site leaders for the outreach hospitals in
09:54:46 our hospital system, so I develop and oversee the protocols for
09:54:49 management in the special care nursery.
09:54:51 Q. And you also mentioned academic activities. What are
09:55:01 those?
09:55:02 A. That involves education of the residents and fellow nurses
09:55:06 and conference educational activities.
09:55:08 Q. Okay. Where did you go to medical school?
09:55:13 A. Northwestern University Medical School.
09:55:17 Q. And did you -- what additional training did you do after
09:55:20 medical school?
09:55:21 A. After medical school I did three years in pediatric
09:55:25 medicine and then followed by three years in neonatal,
09:55:29 perinatal medicine.
09:55:31 Q. Okay. What is perinatal medicine?

09:55:35 A. Medicine surrounding the birth process.
09:55:43 Q. Do you have any board certifications?
09:55:47 A. I'm board certified and pediatrics and neonatal/perinatal
09:55:53 medicine.
09:55:53 Q. Okay. How do you stay updated or current on changes in
09:56:02 your practice area?
09:56:03 A. That would be in daily care of my patients, through
09:56:10 reading the literature, medical conferences, journal clubs that
09:56:13 we have. Part of the benefit of being at a teaching hospital
09:56:17 is that there's always teaching ongoing.
09:56:19 Q. Is reviewing and evaluating medical literature something
09:56:25 that you are trained to do in the course of your education as a
09:56:28 physician and neonatologist?
09:56:31 A. Yes. It's part of anyone's medical career.
09:56:34 Q. Do you -- do you have any training or education in human
09:56:44 fetal development?
09:56:45 A. Yes.
09:56:46 Q. And what is that training or education?
09:56:49 A. One learns about embryology and fetal development even
09:56:55 beginning in medical school. And then, obviously, in a
09:56:58 pediatric residency and neonatal fellowship, that education
09:57:02 would continue.
09:57:03 Q. Okay. Is your knowledge of fetal development relevant to
09:57:06 your current neonatology and perinatal practice?
09:57:10 A. Yes.

09:57:10 Q. How so?
09:57:11 A. In the sense that you have to be aware, when a premature
09:57:19 baby is delivered, what stage of development they're at. For
09:57:23 example, with lung maturity, you have to know what stage a
09:57:26 25-week baby is born, what capacity that baby has for
09:57:30 oxygenation and ventilation based on the stage of lung maturity
09:57:33 that that baby is at.
09:57:35 Q. Okay. Is an understanding of neonatal development also
09:57:42 relevant to treating fetal -- I'm sorry -- treating neonatal
09:57:49 anomalies or other conditions?
09:57:50 A. Yes. I think it helps to understand if a certain
09:57:54 developmental process has gone awry, it helps to understand
09:58:00 embryology and fetal development behind that, especially if
09:58:03 you're talking to families to explain spina bifida, for
09:58:06 example. In utero the spinal cord is open, and it has to
09:58:10 close. And when it doesn't close appropriately, then spina
09:58:14 bifida would result from that. So it kind of helps to
09:58:16 understand the development of the different structures so you
09:58:19 can explain a condition, how that occurred?
09:58:22 Q. Okay. Are you ever involved with treatment of a baby
09:58:27 before it's born?
09:58:29 A. In the sense just general conferences of planning what
09:58:33 would happen at the delivery of that baby.
09:58:35 Q. Okay. Have you worked with doctors who perform procedures
09:58:39 or interventions on fetuses before they're born?

09:58:42 A. Yes.
09:58:42 Q. Okay. What types of doctors are those?
09:58:44 A. Fetal surgeon and also maternal fetal medicine doctors and
09:58:50 obstetricians.
09:58:51 Q. Okay. Are you generally familiar with some of the
09:58:54 practice of the maternal fetal medicine doctors and fetal
09:59:02 surgeons that you work with?
09:59:04 A. Yes.
09:59:05 Q. What is typically the youngest gestational age of patients
09:59:08 that you treat?
09:59:09 A. We resuscitate babies starting at 22 weeks gestation.
09:59:14 Q. Okay. Is there a difference between treatment and
09:59:18 resuscitation?
09:59:20 A. Yes. In the sense that some babies, if they're born at
09:59:25 23 weeks, it's fairly standard where I practice that we would
09:59:30 resuscitate those babies. And at 22 weeks we don't always
09:59:33 intubate and ventilate right away. It's more of a comfort care
09:59:37 situation if you think the baby's outcome -- if the baby is not
09:59:42 likely to survive.
09:59:43 Q. Okay. What is the youngest gestational age of a patient
09:59:46 that you have treated, either actively resuscitated or just
09:59:51 through comfort care?
09:59:52 A. Eighteen weeks.
09:59:53 Q. Okay. How long have you been a practicing neonatologist?
10:00:07 A. Approximately 15 years.

10:00:10 Q. Okay. How has the field changed since the time you
10:00:19 started practicing?
10:00:20 A. That -- the age of viability and the survivor rates and
10:00:25 the successful intact survivor rates have definitely improved.
10:00:31 So when I began in my fellowship, a baby at 25 weeks had about
10:00:34 a 50-50 chance of good survival, whereas today that's -- a
10:00:39 25-weeker probably has about an 85 percent chance of intact
10:00:46 survival.
10:00:46 And we -- it seems to me like what we used to
10:00:49 consider 25 weeks has now been pushed back to 23 weeks. So we
10:00:54 definitely routinely resuscitate 24 weeks and oftentimes 23
10:00:59 weeks, and 22 weeks is kind of the gray area where you make a
10:01:03 plan with the family.
10:01:04 Q. Is an understanding of the pain experience in human babies
10:01:08 at young gestational ages important to your medical practice?
10:01:12 A. Yes.
10:01:13 Q. Why?
10:01:15 A. Well, first of all, of course, these babies are my
10:01:20 patients, so I want my patients to be comfortable just like any
10:01:23 physician would want their patient to be comfortable. And also
10:01:26 by treating neonatal pain, the outcomes are better for babies.
10:01:30 So they haven't had wild swings of blood pressure, heart rate,
10:01:34 or vital sign changes. And, actually, studies have shown that
10:01:37 their long-term outcomes are better if they've had a stable,
10:01:41 comfortable neonatal existence.

10:01:43 Q. Okay. I've just handed you what's marked as Defendants' Exhibit 118. What is that?
10:02:06 A. My curriculum vitae.
10:02:08 Q. Okay. And does this curriculum vitae accurately summarize your professional qualifications and experience and training?
10:02:20 A. Yes.
10:02:21 MS. ARDOLINO: Okay. At this time I move to admit Defendants' 118 into evidence.
10:02:28 MS. RIKELMAN: July Rikelman for Plaintiffs.
10:02:30 No objection.
10:02:31 THE COURT: Defendants' Exhibit 118 is admitted.
10:02:37 Q. (BY MS. ARDOLINO) Dr. Malloy, were you asked to provide an opinion in this case?
10:02:41 A. Yes.
10:02:41 Q. Okay. What topics were you asked to provide an opinion about?
10:02:45 A. The existence of fetal pain and neonatal pain as it relates to fetal development.
10:02:53 Q. Okay. What steps did you take in forming your opinion?
10:02:57 A. I reviewed my medical education and my clinical practice, and also I reviewed the pertinent medical literature on the topic.
10:03:09 Q. Okay. How did you go about reviewing the medical literature?
10:03:14 A. Through our medical library, a PubMed literature search.

10:03:24 Q. Okay. Did you also review additional articles that were
10:03:31 cited by some of the sources that you identified in your
10:03:34 search?
10:03:34 A. Yes.
10:03:35 MS. ARDOLINO: Okay. At this time I move to qualify
10:03:43 Colleen Malloy as an expert in neonatology, perinatology, and
10:03:50 fetal pain.
10:03:51 MS. RIKELMAN: We won't move to exclude, Your Honor.
10:03:53 We'll save our questions for cross?
10:03:55 THE COURT: You may proceed.
10:03:57 Q. (BY MS. ARDOLINO) Dr. Malloy, what is pain?
10:04:03 A. The -- the sensation of a stimulus that could cause either
10:04:11 tissue damage or potential tissue damage.
10:04:15 Q. Okay. Can you give an example of something that would
10:04:23 induce pain?
10:04:24 A. So as opposed to just a light touch, a heel prick with a
10:04:29 needle. And to a baby's heel, for example, would be a
10:04:33 pain-eliciting response.
10:04:34 Q. Okay. When we talk about pain in adults, is that
10:04:39 different from the pain that a fetus or a neonate might feel?
10:04:44 A. I think it most likely would be different, yes.
10:04:49 Q. Okay. Why -- why might it be different?
10:04:52 A. Well, I think, while we have in adults the ability for
10:04:58 them to verbalize their pain and describe what's happening to
10:05:01 them, if you think about any organ system that develops in a

10:05:06 baby, the system is in process, meaning that pain sensation,
10:05:11 wouldn't necessarily be a light switch that's just turned on at
10:05:15 a certain moment in time. It's almost like a dimmer switch,
10:05:18 where things are connecting in development and might not be the
10:05:21 full concert of pain experience that an adult would have but
10:05:26 still would be pain, nonetheless.
10:05:27 Q. Okay. Is there any reason why a difference -- a potential
10:05:42 difference in the pain experience of a fetus with the pain
10:05:49 apparatus in development would be different from the experience
10:05:54 in an adult? Would that mean that the fetus was incapable of
10:05:57 feeling pain?
10:05:58 A. No.
10:06:00 Q. Is there support in the medical literature for your view
10:06:08 that pain can be felt in develop -- by a fetus with its
10:06:15 neurological and brain systems that are -- still developing?
10:06:19 A. Yes.
10:06:19 Q. Okay. Are there any notable -- notable studies or
10:06:28 researchers who take this view?
10:06:32 A. Yes. There's a multitude of them. I would think the guru
10:06:37 of it -- of that field would be Dr. Anand at Stanford who
10:06:42 writes a lot on neonatal pain and also fetal pain.
10:06:47 Q. Okay. And, in your understanding, is Professor Anand at
10:06:51 Stanford well regarded in the area of fetal and neonatal pain?
10:06:56 A. Yes. Definitely.
10:06:57 Q. Okay. And is Professor Anand alone in this viewpoint on

10:07:08 fetal pain in the developing fetus?
10:07:12 A. No.
10:07:12 Q. Okay. Is it possible to know with certainly whether a
10:07:24 fetus at any particular gestational age feels pain?
10:07:29 A. I don't think it's possible to know for sure in the sense
10:07:32 that they can tell us. So we'd have to use indirect evidence
10:07:35 for it.
10:07:35 Q. Okay. So how, then, do doctors and researchers go about
10:07:41 evaluating the capacity of a fetus to feel pain?
10:07:46 A. You have the anatomical components to manifest the pain
10:07:55 response if you have the physiological evidence of it and also
10:08:00 the behavioral evidence of pain.
10:08:03 Q. Okay. So I want to talk first about the anatomical
10:08:10 aspects of -- of the pain experience. What are the anatomical
10:08:18 structures that are involved in experiencing pain?
10:08:21 A. You would need receptors to take in the pain message, and
10:08:27 then that pain is related to the spinal cord, from the spinal
10:08:31 cord into the deeper parts of the brain for processing, such as
10:08:34 the thalamus and cortical structures.
10:08:38 Q. Okay. Do fetuses between the gestational ages of 15 to 22
10:08:48 weeks LMP, have these structures in development?
10:08:54 A. Yes. In development.
10:08:55 Q. Okay. Can you explain what it is that the pain receptors
10:09:03 do? What is their function?
10:09:05 A. To take in the message that -- that -- that there's been a

10:09:12 noxious stimuli.
10:09:14 Q. And how about the spinal cord fibers? What is their role?
10:09:17 A. Kind of like a highway that relays that message up to the
10:09:22 brain.
10:09:22 Q. Okay. And then you mentioned the -- the thalamus and
10:09:27 cortical components of the -- and cortical components. Are
10:09:32 those parts of the brain?
10:09:34 A. Yes.
10:09:34 Q. Okay. And in the -- in a fetus, again, talking generally
10:09:41 about a fetus in the gestational age range of 15 to 22 weeks,
10:09:47 does -- does a fetus during that stage have a fully formed
10:09:52 brain?
10:09:53 A. Between the -- the ...
10:09:57 Q. Fifteen -- about 15 to 22 weeks LMP.
10:10:00 A. I mean, the brain keeps developing even after birth, so I
10:10:04 don't know how you would define a fully formed brain. But it
10:10:07 definitely has the -- some semblance of those components.
10:10:11 Q. Okay. What is the cortical subplate?
10:10:15 A. A cortical subplate is in the fetal brain approximately 13
10:10:20 to 16 weeks. It's almost like a rudimentary cortex that is an
10:10:27 interesting structure, because it actually widens and then
10:10:31 involute over time and eventually is replaced by the full
10:10:34 cortex. So it most likely is a fetal processing center.
10:10:40 Q. And you use the word "involute." What does that mean?
10:10:45 A. To go away.

10:10:46 Q. Okay. So is it fair to say that the cortical subplate is
10:10:57 a transient anatomical structure that appears and then goes
10:11:02 away?
10:11:02 A. Yes. So it wouldn't -- in all organ systems, really,
10:11:08 there's parts that develop and then go away and are replaced by
10:11:11 other structures.
10:11:12 Q. Is that common for many organ systems in a developing
10:11:17 fetus?
10:11:17 A. Yes.
10:11:18 Q. Okay. In your opinion, is it possible for a developing
10:11:27 human fetus to have a pain experience before -- at some point
10:11:33 before the receptors are fully connected to the brain parts?
10:11:44 A. Again, likening, it to a dimmer switch, even if not
10:11:49 they're fully hardwired connected, if there some semblance of
10:11:55 connection, it would be kind of like that dimmer switch turning
10:11:56 on where the pain processing system is developing.
10:11:59 Q. Okay. Do you know of any evidence of fetal -- whether
10:12:19 there's any evidence of fetal brain activity?
10:12:25 A. Yes.
10:12:25 Q. And what is that -- some of that evidence?
10:12:28 A. I've done EEG studies in fetuses down to 18, 19 weeks.
10:12:37 Q. And what have those EEG studies shown, generally?
10:12:40 A. It's a reflection of brain activity in the fetus.
10:12:46 Q. Okay. And what exactly does an EEG study do?
10:12:54 A. Electrical activity in the brain, so certain patterns

10:12:59 would be reflective of different sleep and awake states.
10:13:02 Q. Okay. You also mention that physiologic -- physiological
10:13:06 markers could be indicators that a developing human was having
10:13:13 a pain experience; is that right?
10:13:15 A. Yes.
10:13:15 Q. Okay. What are some of the physiological markers that
10:13:22 researchers and physicians have observed in fetuses that would
10:13:25 indicate a pain experience?
10:13:27 A. Vital sign changes. So heart rate changes, blood pressure
10:13:33 changes, respiratory rate changes, and also hormonal responses
10:13:39 in terms of adrenaline. Like when you think of fight or flight
10:13:44 response, an increased in cortisol and adrenaline levels.
10:13:51 Q. Okay. The changes that you described in vital signs, are
10:13:54 those similar -- the ones that were observed in fetuses, are
10:13:59 those similar to changes in vital signs that adults would
10:14:03 experience upon painful stimulus?
10:14:07 A. Yes.
10:14:08 Q. Okay. And you mentioned the hormonal responses, and you
10:14:13 mentioned adrenaline and cortisol. Just, generally speaking,
10:14:16 what is -- what are adrenaline and cortisol?
10:14:21 A. Those fight or flight, like, hormones. So you're going to
10:14:27 make your body kind of rev up in response.
10:14:31 Q. Okay. Do you know of any particular study or studies that
10:14:37 have examined those adrenaline and cortisol responses in
10:14:41 fetuses?

10:14:42 A. Yes.
10:14:43 Q. And what -- what are those studies, generally?
10:14:46 A. There was a -- a number of them. But there's one that's
10:14:52 very well controlled. So you have a baby who has a needle
10:14:57 inserted into its abdomen or liver specifically versus that
10:15:03 same baby where the needle is just inserted into the umbilical
10:15:07 cord, which is not innervated. And when the needle drew blood
10:15:10 from the baby's liver, the adrenaline and cortisol levels were
10:15:17 very much increased compared to baseline.
10:15:19 Q. Okay. And when you mentioned just a moment ago that the
10:15:23 umbilical cord wasn't innervated, what did you mean that by
10:15:29 that?
10:15:29 A. It's -- if you -- say when you cut the baby's umbilical
10:15:35 cord when the baby is born, the baby doesn't feel that.
10:15:38 Q. But the liver, that would be innervated, correct?
10:15:41 A. Yes.
10:15:42 Q. Okay.
10:15:50 A. Specifically, even the needle going through the abdomen at
10:15:52 the skin level.
10:15:53 Q. Okay. And are those stress responses or hormone responses
10:15:58 that were observed in those studies, were those independent
10:16:02 from the maternal stress responses?
10:16:04 A. Yes.
10:16:05 Q. You also mentioned behavioral markers that would indicate
10:16:17 that a fetus may be experiencing pain. What are some of the

types of behavioral markers that have been observed in fetuses?
A. Grimacing, crying in utero, kicking, kind of moving away from noxious stimuli.
Q. Okay. How have those behaviors been observed?
A. Through ultrasound imaging studies.
Q. Okay. And how have those behaviors -- or any of those behaviors been observed at the gestational ages between 15 and 22 weeks LMP?
A. Yes.
Q. Is it your opinion that a fetus or a neonate at 22 weeks LMP has the -- has the experience of pain in response to a painful stimulus?
MS. RIKELMAN: Objection, leading.
THE COURT: Restate your question.
MS. ARDOLINO: Sure.
Q. What is your opinion about whether a fetus or a neonate at 22 weeks LMP can experience pain in response to a painful stimulus.
A. That they would feel pain.
Q. I'm sorry. What was that?
A. That they would feel pain.
Q. Okay. Thank you. What do you base that opinion on?
A. In large part, my care of 22-week babies that I take care of frequently and see their responses to different painful procedures that we perform on them.

10:18:10 Q. Okay. What types of procedures do you perform on -- on
10:18:17 those babies?
10:18:18 A. IV needle insertion, chest tube placement, endotracheal
10:18:27 intubation, which involves putting a metal rod in the baby's
10:18:31 mouth so you can open the airway up and put a tube in.
10:18:34 Q. Okay. And would those -- do you ever perform those
10:18:40 procedures without any kind of anaesthesia or pain -- pain
10:18:48 management?
10:18:49 A. Yes.
10:18:49 Q. Okay. In what situations do you perform those procedures
10:18:55 on neonates without pain management in place?
10:18:57 A. In emergency situations in the delivery room scenario.
10:19:01 Q. Okay. And what's the reason for not using pain management
10:19:07 in those situations?
10:19:09 A. You just don't have time. The baby's just born.
10:19:12 Q. Okay. In a situation where you do have time, or I guess a
10:19:19 nonemergency situation, do you -- do you treat -- your
10:19:27 patients, the neonates, for pain?
10:19:28 A. Yes.
10:19:30 Q. Okay. What type of pain treatments do you use for
10:19:37 neonates?
10:19:38 A. On a basic level you can do some behavior modification in
10:19:44 terms of swaddling and positioning all the way up to different
10:19:50 opioid medications.
10:19:51 Q. Okay.

10:19:51 A. But even there's interesting studies about neonate with
10:19:55 music therapy. I mean, they're very engaged in the
10:19:58 environment.
10:19:59 Q. Okay. Do you administer pain -- pain management
10:20:09 procedures with neonates at 22 weeks LMP?
10:20:18 A. Can you repeat that?
10:20:19 Q. Sure. Would you use pain management techniques on
10:20:23 neonates that you were treating as young as 22 weeks, LMP?
10:20:28 A. Yes.
10:20:28 Q. How about younger than that? Would you use pain
10:20:30 management techniques with them as well?
10:20:33 A. Yes.
10:20:34 Q. Okay. And would -- do you use any form of pain management
10:20:41 or comfort care with babies that you are not actively
10:20:50 resuscitating?
10:20:51 A. Yes.
10:20:52 Q. And why do you do that?
10:20:54 A. Well, most of the time the families request it. But even,
10:20:59 besides that, if a baby is born and it's really too young to be
10:21:04 resuscitated, you'd still want that baby to be comfortable in
10:21:08 the last minutes of its life. And the parents and the
10:21:12 caregivers don't really want to see a baby struggling and
10:21:15 appearing in pain. So, in the same sense that adults who are
10:21:19 in hospice receive pain medication, we give babies who are in
10:21:23 hospice-like situation pain medication.

10:21:26 Q. Are you aware of any publications or theories in the
10:21:39 medical community that it is not possible for a human fetus to
10:21:43 feel pain prior to 24 weeks gestation?
10:21:46 A. Yes. I'm aware of those -- that literature.
10:21:49 Q. Do you agree with those -- the conclusions expressed in
10:21:53 that literature?
10:21:54 A. I do not.
10:21:55 Q. Okay. Why not?
10:21:57 A. I think it starts with the -- with an assumption that the
10:22:04 pain in a fetus is the same as what would be required in an
10:22:07 adult. So it requires a different kind of pain experience than
10:22:14 the fetus has. So you're starting with the argument that,
10:22:19 right off the bat, the fetus could never approach that. So
10:22:22 it -- it sets the bar too high if you're going to require a
10:22:26 fetal experience of pain to be the same as an adult's. It
10:22:29 wouldn't be the same.
10:22:33 Q. And does your conclusion that fetuses can -- are capable
10:22:42 of experiencing pain, or neonates capable of experiencing pain,
10:22:47 before 22 weeks depend directly on your experience with born
10:22:52 children at 22 week -- or 21 or 22 to 24 weeks?
10:22:59 MS. RIKELMAN: Objection, leading.
10:23:02 Q. (BY MS. ARDOLINO) Is there anything else that -- that you
10:23:05 base your conclusion that fetuses or neonates lower -- at lower
10:23:12 gestational ages than 24 weeks can feel pain?
10:23:18 A. In addition to the fact that we regularly take care of

babies 22 to 24 weeks, I feel like I have a very good understanding of neonates at that gestational age. And then, on top of it, all the literature that's out there that supports it.

Q. Are you aware of any physicians who perform procedures on -- on fetuses that use pain management or anesthesia or analgesia in their practice?

A. Yes.

Q. For fetuses?

A. Yes. For fetal surgery.

Q. Okay. What is your understanding of the reasons why those doctors may use pain management for fetuses during those procedures?

MS. RIKELMAN: Objection, foundation.

THE COURT: Sustained. Back up and lay a foundation.

Q. (BY MS. ARDOLINO) Do you know physicians who perform procedures on -- do you know physicians who perform fetal surgeries?

A. Yes.

Q. Okay. In your review of the medical literature and your research in preparing this opinion, did you review medical literature related to protocols for pain management during fetal surgery?

A. Yes.

Q. Okay.

10:24:52 MS. ARDOLINO: Does that cure your objection?
10:24:54 MS. RIKELMAN: I'll wait to hear your question,
10:24:57 counsel.
10:24:58 Q. (BY MS. ARDOLINO) Okay. So what is your understanding of
10:25:03 the reasons for the use of pain management during procedures on
10:25:12 fetuses such as fetal surgery?
10:25:14 A. The fetal surgery is more successful if you use anesthesia
10:25:21 for the fetuses.
10:25:22 Q. Okay. Are you aware of any publications that have
10:25:31 concluded that it's not possible for a human fetus to feel pane
10:25:37 prior to two -- I'm sorry.
10:25:39 Have you -- are you aware of any publications that
10:25:42 have concluded that a fetus at any gestational age is incapable
10:25:47 of feeling pain as long as it's in utero?
10:25:50 A. I have read something similar to that.
10:25:53 Q. Okay. Do you find those publications to be reliable?
10:26:01 A. I don't find those particular articles to be reliable.
10:26:05 Q. Okay. And do you agree with the conclusions offered in
10:26:08 those articles?
10:26:10 A. I do not.
10:26:11 Q. Okay. Why not?
10:26:12 A. Because a fetus, even though it might spend a majority of
10:26:18 its time in a sleep state, I do not think the neonatology
10:26:22 viewpoint is that a fetus is in a coma even though it might be
10:26:28 sleeping some of the time.

10:26:29 Q. Okay. Is it -- are you familiar with the concept of fetal
10:26:43 sleep-wake cycles?
10:26:45 A. Yes.
10:26:47 Q. Okay. Is it your -- what is your understanding of
10:26:54 whether -- what the fetal sleep-wake cycle is, just generally
10:27:00 speaking?
10:27:00 A. Just generally, the fetus is sleeping and awake and spends
10:27:11 a lot of time sleeping.
10:27:13 Q. And is it your understanding that the existence of awake
10:27:16 states and sleep states is well accepted in the medical
10:27:20 community?
10:27:22 A. Yes.
10:27:22 Q. So you articulated that the -- the basis for these
10:27:34 conclusions that you disagree with regarding whether fetuses
10:27:43 are -- are ever capable of experiencing pain in utero are
10:27:47 dependent on a supposition that the fetus is in a continual
10:27:54 state of sleep during -- during -- while in utero; is that
10:28:00 correct?
10:28:00 MS. RIKELMAN: Objection, leading.
10:28:02 Q. (BY MS. ARDOLINO) Well, does that accurately summarize
10:28:05 your earlier testimony?
10:28:06 MS. RIKELMAN: Same objection.
10:28:07 THE COURT: Sustained. Don't lead the witness.
10:28:10 Q. (BY MS. ARDOLINO) Do you have an understanding of what
10:28:28 some of the -- what some of the conclusions that fetuses

10:28:37 continue to be asleep in the -- while in utero are based on?
10:28:43 A. I think so.
10:28:46 Q. Okay. And what are some of those conclusions based on, in
10:28:52 your understanding?
10:28:53 A. That the -- the warm amniotic fluid would be
10:28:58 sleep-inducing.
10:29:03 Q. Okay. And do you find it -- or, actually, let me strike
10:29:12 that.
10:29:12 Are you familiar with a conclusion that fetuses sleep
10:29:24 in utero because they're in a low-oxygen environment?
10:29:27 A. I'm familiar with that.
10:29:29 Q. Okay. Do you find that conclusion persuasive or credible?
10:29:34 A. I do not. Because even though the -- intrauterine
10:29:39 environment is a low-oxygen environment, the fetus is perfectly
10:29:43 suited for it. And so it's a different -- they have different
10:29:46 hemoglobin, a different affinity for oxygen. They have a lower
10:29:51 oxygen state, but it's appropriate for the fetus, which
10:29:54 functions differently as -- than an adult.
10:29:57 Q. When you say they have a different affinity for
10:30:01 hemoglobin, what do you mean by that? Let's start with this:
10:30:04 What is hemoglobin?
10:30:05 A. Hemoglobin is a part of your red blood cell that carries
10:30:10 oxygen.
10:30:10 Q. Okay. And what -- what is -- how is fetal hemoglobin
10:30:15 different from -- or is fetal hemoglobin different from adult

10:30:19 hemoglobin?
10:30:20 A. Yeah. So fetal hemoglobin binds oxygen more tightly than
10:30:28 adult hemoglobin. So the fetus can then take the oxygen from
10:30:32 the mother's adult hemoglobin because the fetal hemoglobin
10:30:36 holds on to it tighter.
10:30:38 Q. Okay. Are you familiar with the -- the supposition or the
10:30:48 conclusion that fetuses remain in a sleep-like state in utero
10:30:55 because they are -- have higher levels of certain hormones in
10:31:00 their -- in their systems?
10:31:04 MS. RIKELMAN: Objection, leading.
10:31:05 MS. ARDOLINO: I asked her if --
10:31:06 THE COURT: Overruled.
10:31:08 A. Yes.
10:31:08 Q. Okay. And, in particular, are you aware of the particular
10:31:16 type of hormones that have been credited with this sleep-like
10:31:20 affect?
10:31:21 A. Yes.
10:31:21 Q. Okay. What -- what are those?
10:31:25 A. They -- different hormones -- for the most part, amniotic
10:31:30 fluid is comprised of urine and salt and water. But there is
10:31:34 some low levels of hormones in the fluid as well, such as
10:31:37 adenosine, which functions as a neurotransmitter.
10:31:42 Q. And, in your opinion, do you find these conclusions that
10:31:50 hormones such as adenosine that are found in fetuses contribute
10:31:57 to a sleep-like state in fetuses -- do you find those opinions

10:32:01 credible?
10:32:02 A. I do not.
10:32:03 Q. Okay. And why not?
10:32:05 A. We routinely use things like adenosine in infants for
10:32:11 heart arrhythmias, and I have never once given adenosine and
10:32:15 had a baby fall asleep on me. In fact, they're wide awake.
10:32:21 Q. Okay. Dr. Malloy, do you consider yourself pro-life?
10:32:44 A. Yes.
10:32:44 Q. Okay. Does your pro-life stance affect in any way the --
10:32:55 your reading of the medical literature or the conclusions that
10:32:58 you draw about fetal pain?
10:33:00 A. No.
10:33:06 MS. ARDOLINO: Okay. Pass the witness.
10:33:07 THE COURT: At this time we'll take our morning
10:33:09 recess, and we'll be in recess for 15 minutes.
10:33:14 (Recess)
10:50:26 (Open court)
10:50:26 THE COURT: When we recessed, the witness had been
10:50:28 passed; is that correct?
10:50:29 MS. ARDOLINO: That's right. And I just briefly want
10:50:31 to briefly go on the record. I entered in Dr. Malloy's CV as
10:50:35 Defense Exhibit 118. But, apparently, we already have an
10:50:40 Exhibit 118. So I wanted to go on the record to say that we
10:50:44 are offering Dr. Malloy's CV as Exhibit 120 and that we will
10:50:49 correct all of that and get a corrected exhibit list.

10:50:56 MS. RIKELMAN: No objection, Your Honor.

10:50:57 THE COURT: All right. So Defendants Exhibit 120 is admitted, and please make whatever corrections are necessary. You can coordinate through the clerk and the court reporter to make sure the correct document is in record.

10:51:11 MS. ARDOLINO: Thank you, Your Honor.

10:51:18 MS. RIKELMAN: Julie Rikelman for Plaintiffs. Your Honor.

10:51:21 **CROSS-EXAMINATION**

10:51:21 **BY MS. RIKELMAN:**

10:51:21 Q. Good morning, Dr. Malloy.

10:51:22 A. Good morning.

10:51:23 Q. Dr. Malloy, the first opinion that you've offered here today is that a fetus can feel pain at 22 weeks LMP, correct?

10:51:36 A. Yes.

10:51:36 Q. That opinion is based on your review of medical literature and your experience as a physician, right?

10:51:42 A. Yes.

10:51:42 Q. But your personal experience as a physician with babies, correct?

10:51:48 A. Yes.

10:51:50 Q. Neonatology is concerned with the care of babies from birth until discharge from the hospital, right?

10:51:58 A. Not necessarily. We're -- the perinatal part of my neonatology-perinatal medicine boards is that we are involved

10:52:08 in the perinatal aspect of planning for babies. We meet with
10:52:12 mothers while they're still pregnant to discuss treatment plans
10:52:16 and delivery scenarios.
10:52:20 Q. Dr. Malloy, other than verbal counseling shortly before
10:52:28 delivery for a preterm birth, you don't provide any medical
10:52:32 care to pregnant women, do you?
10:52:34 A. Correct.
10:52:41 Q. And you also do not provide any medical care to a fetus
10:52:45 while it is in utero, correct?
10:52:48 A. Well, a neonatologist is always involved on standby during
10:52:53 a fetal surgery.
10:52:54 Q. But you yourself do not provide any care to a fetus while
10:52:59 it is in utero, correct?
10:53:01 A. True.
10:53:01 Q. Have you ever performed surgery on a fetus in utero?
10:53:06 A. No.
10:53:06 Q. Have you performed any procedures on a fetus in utero?
10:53:11 A. No.
10:53:11 Q. Do you perform fetal ultrasounds?
10:53:14 A. No.
10:53:15 Q. In fact, in your position as a neonatologist, you've never
10:53:21 been present during fetal ultrasounds, correct?
10:53:24 A. False.
10:53:24 Q. You have --
10:53:26 A. That's incorrect.

10:53:27 Q. You have in front of you, Dr. Malloy, a copy of your
10:53:30 deposition transcript?
10:53:31 A. Yes.
10:53:31 Q. Can you please turn to page 123.
10:53:50 A. Did you say 123?
10:53:52 Q. Page 123.
10:53:56 A. 123, right?
10:53:58 Q. Yes.
10:53:58 A. Yeah.
10:53:58 Q. On the line beginning on line 22 of your deposition
10:54:03 transcript I asked you: "In the context of your position as a
10:54:08 neonatologist, have you ever been present during ultrasounds?
10:54:14 "Answer: No."
10:54:15 Did I read that correctly.
10:54:16 A. Yes. But that's what you asked me. Because we always
10:54:21 review the ultrasound images with the team when we're planning
10:54:24 a delivery scenario. So even though I'm not physically present
10:54:29 in the room while they're doing the ultrasound, I'm still
10:54:31 looking at the images.
10:54:32 Q. But you're never in the room when the ultrasound is
10:54:34 actually happening, correct?
10:54:36 A. True. But, still, the images are the same. You don't
10:54:41 have to be present during actual ultrasound, like, technique.
10:54:46 You still -- all they're doing is obtaining images that we can
10:54:49 look at later as a group. You don't have to be in the actual

10:54:52 room with the ultrasound. So, no, I'm not in the room while
10:54:54 the ultrasound is being taken, but the images are the same.
10:54:58 You don't have to be there in a live form. You just look at
10:55:02 them once they're in an ultrasound printed form.
10:55:04 Q. Dr. Malloy, isn't it correct that physicians who are
10:55:08 trained to read ultrasounds are maternal fetal medicine
10:55:13 specialists?
10:55:15 A. Some are. Not all.
10:55:18 Q. By you as neonatologist, you do not focus on reading fetal
10:55:23 ultrasounds, do you?
10:55:24 A. I do not read fetal ultrasounds.
10:55:27 Q. So, to the extent that your first opinion about fetal pain
10:55:36 is based on your practice as neonatologist, you're assuming
10:55:42 that a fetus would have the same pain experience as a baby of
10:55:46 equal gestational age, correct?
10:55:49 A. No.
10:55:50 Q. Aren't you making the assumption that the fetus would have
10:55:53 the same experience as a baby?
10:55:56 A. No.
10:55:56 Q. But you yourself do not treat fetuses while they're in
10:56:02 utero, correct?
10:56:03 A. True. But what I'm saying is, my experience with them
10:56:08 helps me understand the possible fetal pain perception that
10:56:15 would be occurring in utero because I'm -- I'm not saying it's
10:56:19 the exact same, but I'm saying it helps me understand, if I

take care of 22- to 24-week babies, what that pain experience would be for a baby in utero.

Q. Your experience is with babies, not fetuses in utero, correct?

A. I still feel like, as a perinatal expert, I have some experience with those.

THE COURT: Let me suggest something to you-all. If both of you would move the mics down just a little bit to where you're speaking kind of over the mic instead of into the mic.

THE WITNESS: Is that my breathing you heard? I though it was her breathing.

THE COURT: Just push the mic down a little bit. Not even that far. Just have it somewhere below your lips just so you're speaking over the top. And that way we won't get the feedback on it.

MS. RIKELMAN: Is that better, Your Honor?

THE COURT: Yes.

THE WITNESS: So I guess --

THE COURT: No. You can be as close to it as you were. Just speak over it, no directly into it.

THE WITNESS: Okay.

Q. (BY MS. RIKELMAN) Dr. Malloy, you do not provide any medical care to a fetus while it is in utero, correct?

A. I disagree with that because I think we're a very intricate part of the planning team at the end of pregnancy

10:57:30 when you're preparing for a 22- to 24-week delivery. I think
10:57:34 we're very much involved with that.
10:57:35 Q. But the only planning that you do is to have a verbal
10:57:38 conference with the pregnant woman about a preterm birth,
10:57:42 correct?
10:57:43 A. As opposed to what?
10:57:45 Q. As opposed to actually providing treatment to a fetus in
10:57:49 utero.
10:57:49 A. But you're discussing what the treatment will be, and
10:57:52 you're discussing what the plans will be for that baby. So
10:57:55 that's a big part of medical care, is planning what will be
10:57:59 happening to that baby. That's a big part of it.
10:58:02 Q. Dr. Malloy, can you please turn to page 131 of your
10:58:06 deposition transcript.
10:58:14 A. Yes.
10:58:15 Q. I'm sorry, Dr. Malloy. Please look at page 130.
10:58:34 Starting at line 3, I asked you:
10:58:37 "Do you ever become involved in treatment before a
10:58:39 baby is born, Dr. Malloy, other than the situation you
10:58:43 described earlier where you do counseling for women that may be
10:58:47 expecting a preterm birth?
10:58:49 "Answer: With the exception of conferences that plan
10:58:51 how to anticipate a difficult birth or maternal prenatal
10:58:55 counseling, that would be the extent of it."
10:58:58 Did I read that correctly?

10:58:59 A. Yes. But I don't know why you're lessening the importance
10:59:02 of that activity.
10:59:03 MS. ARDOLINO: And I'm going to object that is
10:59:11 improper impeachment.
10:59:11 THE COURT: Overruled.
10:59:13 Q. (BY MS. RIKELMAN) Dr. Malloy, can you also look at
10:59:16 page 131 of your deposition transcript.
10:59:18 A. (Complies)
10:59:18 Q. On page -- starting at line 5, I asked you:
10:59:21 "Do you provide any counseling? I know it is part of
10:59:24 medical care, but do you provide any other medical care to the
10:59:27 woman other than that verbal conversation?
10:59:30 "Answer: No."
10:59:30 Did I read that correctly?
10:59:31 A. Yes.
10:59:34 MS. ARDOLINO: And I'm going to object. I'm not sure
10:59:36 that that's proper impeachment.
10:59:38 THE COURT: I don't find it to be improper
10:59:40 impeachment. Counsel has the witness on cross-examination.
10:59:43 I'm going to allow her to cross-examine. I'll attribute
10:59:48 whatever weight I think is appropriate to the answers.
10:59:54 Q. (BY MS. RIKELMAN) Dr. Malloy, you're not aware of any
10:59:56 medical or scientific articles that support the assumption that
11:00:02 a fetus has the same pain experience as a baby of equal
11:00:06 gestational age, are you?

11:00:08 A. That's false.
11:00:11 Q. Can you please turn to page 129 of your deposition
11:00:15 transcript.
11:00:17 A. (Complies)
11:00:35 Q. Beginning on line 5, I asked:
11:00:39 "In the middle of that paragraph you wrote that
11:00:41 there's no reason to believe the born infant at 22 weeks would
11:00:45 feel pain any differently than that same infant were he or she
11:00:49 still in utero. Did I read that correctly?
11:00:51 "Answer: Yes.
11:00:52 "Are there any particular articles cited in your
11:00:53 expert report that support that opinion?
11:00:56 "Answer: No. That's my opinion from experience.
11:00:59 "That's your opinion based on your experience as a
11:01:02 practicing physician?
11:01:03 "Yes.
11:01:04 "Question: So you're not relying on any of the
11:01:06 articles cited in your expert report for that opinion?"
11:01:09 THE COURT: Well, now, let me stop you right here.
11:01:12 Ms. Ardolino has a point. Don't just read her excerpts from
11:01:17 her deposition and then ask her a question about them. Ask her
11:01:21 the question and, if you get a different answer than what you
11:01:24 got in the definition -- I mean, in the deposition, impeach her
11:01:29 on that.
11:01:30 MS. RIKELMAN: Yes, Your Honor. I was just reading

11:01:32 the preceding for context. Here's the critical part.
11:01:34 THE COURT: Well, I think the witness is capable of
11:01:36 sensing the context.
11:01:39 MS. RIKELMAN: Yes, Your Honor. I understand.
11:01:40 THE COURT: Just ask her the questions you want to
11:01:42 ask her on examination, and then see if you get the same
11:01:44 response.
11:01:45 MS. RIKELMAN: Understood, Your Honor.
11:01:46 Beginning on line 18 on page 129, "So you're not
11:01:49 relying any of the articles in your expert report for that
11:01:52 opinion?"
11:01:53 THE COURT: I believe that's just what I told you not
11:01:55 to do.
11:01:55 MS. RIKELMAN: I'm sorry, Your Honor.
11:01:57 THE COURT: Ask her the question. Remember yesterday
11:01:59 I gave the example of ask her if there's a cat --
11:02:00 MS. RIKELMAN: Yes.
11:02:00 THE COURT: -- sitting on the --
11:02:01 MS. RIKELMAN: Yes, Your Honor.
11:02:02 THE COURT: Well, you answer the -- you ask her the
11:02:04 direct question and see what her responses are. And if it's
11:02:08 different from an answer she previously gave, then you may
11:02:10 impeach her on it.
11:02:13 MS. RIKELMAN: Your answer: "Baby at 22 weeks is the
11:02:15 same whether it's in utero or ex --

11:02:17 THE COURT: No. Stop it. Do not read to her from
11:02:20 the deposition until you have asked her a direct question.
11:02:24 MS. RIKELMAN: I'm sorry, Your Honor.
11:02:25 THE COURT: Or I'm going to cut off the
11:02:26 cross-examination.
11:02:27 MS. RIKELMAN: Okay. I'm sorry.
11:02:28 THE COURT: You examine the witness; you don't
11:02:30 examine the deposition.
11:02:31 MS. RIKELMAN: Of course, Your Honor.
11:02:33 Q. You're not aware of any scientific or medical articles
11:02:35 that support the assumption that a fetus in utero would have
11:02:39 the same experience as a baby of the same gestational age,
11:02:42 correct?
11:02:43 A. That's a different question than you asked me before.
11:02:46 So what I said in my deposition was: The exact same
11:02:50 experience of pain for a born infant at 22 weeks versus a
11:02:54 fetal -- fetus. There is a lot of medical literature published
11:02:59 on the comparison of fetal pain to neonatal pain. It might not
11:03:05 be the same, but definitely you can rely on experience with
11:03:10 22-week born infants to extrapolate, support, deduce what that
11:03:15 pain experience would be for a fetus in utero.
11:03:18 So what I said in my deposition was I feel like it's
11:03:20 the same. So that's saying it's equal. But I think there's a
11:03:25 lot of medical literature that relies and makes a connection
11:03:29 between a born infant at 22 weeks and a fetus at 22 weeks.

11:03:33 Q. What medical literature can you point to that supports the
11:03:36 assumption that a fetus has the same pain experience as baby of
11:03:40 equal gestational age?
11:03:41 A. I would direct you to the writings of Dr. Anand and the
11:03:44 published sources that are in my report.
11:03:46 Q. What published sources other than Dr. Anand?
11:03:50 A. Dr. Anand's written 25 papers, so you want to exclude all
11:03:55 of those and you want a different one?
11:03:56 Q. Yes. Is there anything other than the writings of
11:03:59 Dr. Anand that you're relying on for that assumption?
11:04:02 A. Yes.
11:04:03 Q. What article?
11:04:04 A. I'd have to get back to you on that. Off the top of my
11:04:09 head, there's books written on neonatal pain, fetal pain.
11:04:13 There's authors that have written textbooks on it. So it's
11:04:16 not -- he's not the one person writing on neonatal pain and
11:04:20 fetal pain.
11:04:20 Q. Can you identify any of those authors or textbooks right
11:04:24 now?
11:04:24 A. There's one that's called *Neonatal Pain* that you could
11:04:29 refer to that was published in 2016.
11:04:32 Q. Is that a source that you relied on in your expert report?
11:04:36 A. I believe it's in my expert report.
11:04:38 Q. Can you please show me? You have a copy of your expert
11:04:41 report.

11:05:00 A. Buonocore and Bellieni, *Neonatal Pain: Suffering, Pain, and Risk of Brain Damage in the Newborn*, Second Edition, Springer 2017.
11:05:07 Q. And what part of that supports your assumption that a fetus has the same pain experience as a baby of equal gestational age?
11:05:09 A. The chapter of the book that compared neonatal pain to fetal pain.
11:05:12 Q. What did --
11:05:16 A. I'm sorry. I don't have the book with me right now, but I could get back to you on it. It's a textbook, so ...
11:05:17 Q. Dr. Malloy, are you aware that some of the articles you've cited in your expert report actually contradict the assumption that a fetus and baby of equal gestational age have the same pain experience?
11:05:20 A. Yes.
11:05:21 Q. You're aware that some of them contradict that?
11:05:21 A. Yes.
11:05:24 Q. Which articles contradict your opinion in that issue?
11:05:27 A. The JAMA article that says pain would not start until 29 weeks gestation, which is about a month after we -- a month and a half, really, after we start resuscitating babies. So 29 weeks. Yet any parent of any baby who was 25, 26, 27, 28 weeks, they would disagree with that.
11:05:30 So the premise that you need some sort of higher
11:05:33
11:05:37
11:05:37
11:05:38
11:05:40
11:05:41
11:05:44
11:05:48
11:05:53
11:05:57
11:06:03
11:06:05

11:06:09 cortical functioning, any article that would talk about a baby
11:06:12 being in a coma in utero seems just preposterous to me. So, I
11:06:19 mean, do you want me to tell you the other articles that I
11:06:21 think I went through already that talk about why a baby in
11:06:25 utero wouldn't have pain? I don't think any pregnant lady
11:06:29 would tell you the baby was in a coma.
11:06:30 Q. You relied on an article by Derbyshire called "Fetal
11:06:34 Pain"?
11:06:34 A. I reviewed it.
11:06:35 Q. It's cited in your expert report?
11:06:37 A. Yes. Because I reviewed it.
11:06:39 Q. And are you aware that that article contradicts your
11:06:42 assumption that a fetus and a baby of equal gestational age
11:06:45 have the same pain experience?
11:06:47 A. That's one of the articles that requires higher-level
11:06:51 cortical processing similar to adults.
11:06:52 Q. But are you aware that it specifically contradicts your
11:06:55 assumption that a fetus and baby of equal gestational age would
11:06:58 have the same pain experience?
11:07:00 A. I believe so, yes.
11:07:03 Q. Are you aware that there's articles that you've cited in
11:07:09 your expert report that contradict your conclusion that a fetus
11:07:12 can feel pain at 22 weeks LMP?
11:07:14 A. I reviewed those articles and critically read them, and
11:07:18 there are definitely portions of each of those articles that

admit to the fact that the pain processing system is in development in utero. And some of them even go so far as to say that, while this is all developing and nearly intact, we still don't know for sure that the complete system is the same as an adult. Therefore, we cannot say they have pain.

And I'll flip it on the other way and say, it's in development. How can you say for sure there's no pain? You're almost better off saying there must be some degree of pain in a developing system that's in the process moving towards what will be eventually a child and an adult.

So I do review those articles. I think it's important to look -- there's a lot of science in there, and I think a lot of what those papers say support, actually, the opinion there is a pain system, at least in development.

Q. You were talking earlier in your testimony today about an article about hormonal responses in the fetus, correct?

A. Yes.

Q. What article were you referring to? Are you looking at your expert report to refresh your recollection?

A. Yes. I'm looking for the article by Giannakoulopoulos, "Fetal plasma cortisol and beta-endorphin response to intrauterine needling."

And also there's one by Gitau, et al., "Fetal hypothalamic-pituitary-adrenal stress responses to invasive procedures are independent of maternal responses."

11:08:48 Q. And is the Fisk article another one of the articles that
11:08:51 you relied on for your opinions about hormonal responses?
11:08:55 A. That article says that if you give opioid analgesia, you
11:09:00 blunt the response of the fetus to painful procedures.
11:09:03 Q. So is that another article that you're relying on?
11:09:06 A. That I reviewed, yes.
11:09:07 Q. Are you aware that that article reaches the conclusion
11:09:10 that the relation between stress responses and pain is not
11:09:13 clear and, therefore, it's not possible from our data to
11:09:17 conclude that the human fetus experiences pain in utero?
11:09:20 A. I am very aware that it says that it's not clear. I don't
11:09:22 know how you make the jump to say it's not possible. "Not
11:09:26 clear" and "not possible" are completely different things. So
11:09:29 I think that's helpful information to look at that science.
11:09:31 And, in my mind --
11:09:32 THE COURT: Slow down. Just slow down a little bit.
11:09:35 You can talk faster than I can listen.
11:09:38 THE WITNESS: Sorry.
11:09:39 THE COURT: Or the court reporter can take it down.
11:09:41 So just slow down.
11:09:42 THE WITNESS: Okay. I apologize. My children say
11:09:43 that as well.
11:09:44 A. So I think when you say something is unclear, it makes the
11:09:47 huge jump to say, therefore, pain is not possible. It's
11:09:51 unclear. I don't think we know for sure because, obviously,

11:09:55 we're talking about a fetus in utero that we can't ask if it's
11:09:59 feeling pain. But that doesn't mean it's not possible, because
11:10:02 the fetus can't tell us.
11:10:03 Q. Dr. Malloy, let me ask you again my specific question:
11:10:08 Are you aware that that article which you cited in your expert
11:10:10 report does not support your conclusion that a fetus at 22
11:10:14 weeks LMP can feel pain?
11:10:16 A. I think there's a lot of that article that does support my
11:10:19 conclusion.
11:10:19 Q. But are you aware that it specifically states that,
11:10:22 because the stress response in relation to pain is not clear,
11:10:26 it's not possible to conclude that the human fetus experiences
11:10:30 pain"?
11:10:30 A. But, in my mind, I think that supports my opinion, because
11:10:35 it's not clear. You can't rule it out. So I think there's a
11:10:37 lot that supports my opinion that there's pain in utero.
11:10:41 Q. So you think that the author's conclusion that their data
11:10:44 doesn't support that conclusion is nevertheless something that
11:10:48 you can rely on?
11:10:52 A. I'm sorry. Can you repeat that?
11:10:53 Q. Sure. The authors themselves who wrote that article
11:10:56 viewed their data as not supporting the conclusion that a fetus
11:11:00 can feel pain in utero, correct?
11:11:03 A. I think they said it wasn't clear.
11:11:05 Q. Dr. Malloy, most of the babies that you've cared for have

11:11:11 been born at 23 weeks LMP or later, correct?
11:11:16 A. We start resuscitating at 22 weeks.
11:11:19 Q. Is it correct that most of the babies that you've cared
11:11:22 for in your career have been born at 23 weeks LMP or later?
11:11:28 A. I suppose most of them, yes.
11:11:30 Q. You only take care of two or three babies a year who are
11:11:33 22 weeks LMP, correct?
11:11:35 A. Correct.
11:11:35 Q. And over the course of your medical career, there are only
11:11:40 two instances when you provided care to babies born before 22
11:11:44 weeks LMP, correct?
11:11:46 A. Correct.
11:11:46 Q. And in both of those instances, the babies were over 21
11:11:51 weeks LMP, right?
11:11:52 A. Yes.
11:11:53 Q. And they died less than a day after birth, correct?
11:11:57 A. Yes.
11:12:02 Q. So you've never provided medical care to a baby who was
11:12:06 less than 21 weeks LMP, correct?
11:12:08 A. That's not correct, if you include nonresuscitative care.
11:12:14 Q. Dr. Malloy, can you please turn to page 34 of your
11:12:18 deposition.
11:12:49 A. (Complies)
11:12:49 Q. Are you there Dr. Malloy?
11:12:50 A. Yes.

11:12:51 Q. I asked you: "How many times in your career have you
11:12:54 actually provided medical care to a neonate who is less than
11:12:58 22 weeks LMP?
11:13:00 "Answer: Probably twice. And when you say 'provide
11:13:03 medical' care, that was just comfort care in this situation,
11:13:07 but that's still considered to be medical care."
11:13:10 Did I read that correctly?
11:13:11 A. You read that part correctly. So if you look above it on
11:13:14 line 9 and 10, it says, "I've been to deliveries and I've seen
11:13:18 babies as young as 12 weeks gestation and have also seen them
11:13:21 19 weeks where the parents are unsure of the dates and they
11:13:24 want a neonatologist present." It's in the paragraph above
11:13:28 that.
11:13:28 Q. Dr. Malloy, let me just make clear again: Your answer to
11:13:31 me at your deposition that you've only provided medical to a
11:13:33 neonate who is less than 22 weeks twice, and that included
11:13:38 comfort care, correct?
11:13:39 A. So, again, if we are actually present at the delivery, I
11:13:46 guess it depends what you call "medical care." So if they call
11:13:50 us, I've been at deliveries of 12 -- of 19-weeks babies, and
11:13:54 then they've asked us -- at that point they don't need us
11:13:56 anymore because we're not going to do anything. And the OBs
11:14:00 are well versed in, you know, handling babies that aren't going
11:14:03 to survive. So they -- I don't -- but I've been at their
11:14:07 deliveries.

11:14:07 Q. So was your answer to me during your deposition incorrect,
11:14:10 that you've only provided care, including comfort care, twice?
11:14:13 A. No. Because I'm -- if they call us to delivery and we're
11:14:18 at the delivery and the baby is clearly pre-viable and we leave
11:14:22 the room, I'm not sending them a bill. I didn't provide them
11:14:25 any care. But I was present at the delivery, and I could tell
11:14:28 you what a baby looks like because I witnessed it. But I
11:14:31 didn't care for them.
11:14:32 Q. But you didn't provide any care in those instances?
11:14:35 A. I walked in the room, and I left the room. I don't know
11:14:37 that I did anything but be physically present as opposed to
11:14:41 providing care, where you're giving morphine to a baby in a
11:14:44 hospice position, where you're swaddling a baby and handing it
11:14:47 to the mother. That's what I consider "care." I don't
11:14:49 consider "care" just walking in a room and walking out of the
11:14:52 room.
11:14:52 Q. Exactly. And so, again, just so the record is clear, you
11:14:55 have provided care to babies younger than 22 weeks LMP twice,
11:15:00 correct?
11:15:01 A. Sure.
11:15:03 Q. Dr. Malloy, the other opinion that you've offered in this
11:15:11 case is that it's possible that a fetus at less than 22 weeks
11:15:17 LMP may feel pain, correct?
11:15:19 A. Yes.
11:15:19 Q. And that particular opinion is based on review of medical

literature, right?
A. Yes.
Q. Since you haven't actually provided medical care to babies who are 20 weeks LMP or younger, correct?
A. Yes.
Q. Are you aware of any medical or scientific organization that has concluded that a fetus can feel pain at 20 weeks LMP?
A. A medical organization can conclude -- what was that?
Q. Are you aware of any medical or scientific organization that has concluded that a fetus can feel pain at 20 weeks LMP?
A. I am not aware of an organization.
Q. Are you aware of any medical or scientific organization that has concluded that a fetus can feel pain before 20 weeks LMP?
A. For 20 -- 24 weeks, did you say?
Q. Are you aware of any medical or scientific organization that has concluded that a fetus can feel pain before 20 weeks LMP?
A. I am not aware.
Q. Dr. Malloy, you're not a researcher, correct?
A. Not a researcher? What do you mean by that?
Q. Well, you have only one original peer-reviewed research article of your own, right?
A. So you mean that I haven't published? Because we participate in studies all the time as a group. But I haven't

11:16:48 authored the papers, necessarily, that -- so you mean -- I do
11:16:53 perform research all the time at work.
11:16:55 Q. On your CV you have only one original peer-reviewed
11:16:59 research article of your own, correct?
11:17:00 A. That's true.
11:17:01 Q. That one article has nothing to do with fetal pain,
11:17:05 correct?
11:17:05 A. Correct.
11:17:05 Q. And you're not an expert in neuroscience, are you,
11:17:10 Dr. Malloy?
11:17:11 A. I am not a neuroscience expert.
11:17:14 Q. And you can't tell us which part of the cortex is
11:17:18 associative of experience of pain in humans, correct?
11:17:21 A. Correct.
11:17:22 Q. And you're not an expert in anesthesiology, correct?
11:17:27 A. I'm not an anesthesiologist.
11:17:29 Q. Or an expert in anesthesiology?
11:17:32 A. An expert in anesthesiology? I think that would be an
11:17:37 anesthesiologist.
11:17:38 Q. Okay. You're also not an expert on fetal surgery or fetal
11:17:43 procedures, right?
11:17:44 A. I'm not a fetal surgeon.
11:17:46 Q. In fact, you don't consider yourself to be an expert in
11:17:50 any field of medicine or science other than neonatology,
11:17:53 correct?

11:17:54 A. It's actually neonatology and perinatal medicine and also
11:18:01 pediatrics.
11:18:01 Q. Dr. Malloy, do you want to open your deposition transcript
11:18:04 to page 50, please.
11:18:18 A. (Complies)
11:18:19 Q. Can you please look beginning at line 24.
11:18:22 "Question: Do you consider yourself an expert in any
11:18:25 other area of medicine?
11:18:28 "Answer: No.
11:18:30 "Question: Do you consider yourself an expert in any
11:18:33 other area of science?
11:18:35 "Besides medicine?
11:18:35 "Yes. Besides medicine.
11:18:36 "Answer: No."
11:18:40 Did I read that correctly?
11:18:41 A. Yes.
11:18:42 Q. And beginning at line 21, right before we had that
11:18:46 exchange, I asked you:
11:18:47 "Dr. Malloy, do you consider yourself a medical
11:18:49 expert in neonatology?
11:18:51 "Answer: Yes."
11:18:52 Q. Did I read that correctly?
11:18:53 A. Yes.
11:18:54 Q. So, Dr. Malloy, to the extent that you've discussed
11:19:04 articles or medical literature on neuroscience or fetal

behavior in the uterus or anaesthesia, you're not an expert in those areas, right?
A. I think by being a neonatologist, I am an expert in fetal development.
Q. Well, at your deposition a few weeks ago, Dr. Malloy, you couldn't remember which of the neuroscience and fetal development articles that you'd cited supported certain parts of your expert report, correct?
A. Yes.
Q. You couldn't tell me which articles supported your statements about the development of connections between the spinal cord and the thalamus, correct?
A. Because I've read so many articles, I didn't know which one you were referring to when you asked me to specifically say which article was related to one sentence in my report. So I didn't know -- I mean, when you read all these articles, I don't memorize them. I just kind of review them critically, and I can't commit them all to memory.
Q. And so you weren't able to identify for me, correct, which article supported that statement about the development of connections between the spinal cord and thalamus in your expert report, right?
A. Was I able to identify it? Is that what you said?
Q. Yes. You weren't able to identify for me which article supported that part of your expert report, correct?

11:20:23 A. I think, when we look back through the articles, then we
11:20:27 were able to pull out from where the information came. But I'd
11:20:30 have to have the articles in front of me so I could refer to
11:20:33 them and tell you from where each part of my report originated.
11:20:37 Q. Dr. Malloy, in your report you wrote that there was ample
11:20:41 biological, physiologic, hormonal, and behavior -- behavioral
11:20:47 evidence for fetal pain in the second trimester, correct?
11:20:49 A. Yes.
11:20:50 MS. ARDOLINO: Objection -- withdrawn.
11:20:55 Q. (BY MS. RIKELMAN) But at your deposition you weren't able
11:20:57 to tell me which articles that you had cited supported your
11:21:00 statement about the biological or the physiologic or the
11:21:04 hormonal or the behavioral evidence, correct?
11:21:07 A. I was able to tell you in some where the information came
11:21:11 from. But you wanted me to exactly give you a road map of what
11:21:14 came from which article, and I don't have 50 articles committed
11:21:17 to memory.
11:21:18 Q. Dr. Malloy, can you please turn to page 90 of your
11:21:21 deposition.
11:21:42 A. Yeah.
11:21:58 Q. "Question, line 16: Let me just take these points one by
11:22:00 one. Can you please tell what ample biological evidence you're
11:22:04 referring to there?
11:22:05 "Answer: Biological evidence would be the evidence
11:22:07 of the neurological pathways having been developed.

"And there particular articles cited in your expert report that focus on the biological evidence?

"Answer: Now I wish I had annotated them because I don't remember which ones go with which. I mean, I'd have to go through and look at them all.

"Question: Sitting --

THE COURT: Counsel, slow down.

MS. RIKELMAN: I'm sorry, Your Honor, I apologize.

"Question: Sitting here today, you can't remember which ones focus on the biological evidence?

"Answer: I would be guessing on the likely ones based on their title, but I could give you a better answer by actually looking at the article.

"Question: So just to make this faster for both of us" --

MS. ARDOLINO: Your Honor, this is improper impeachment.

THE COURT: Well, I want to wait until she gets through and hear what she's going to do with it. You may or may not be right. I'll withhold the ruling.

MS. RIKELMAN: "Question: So just to make this faster for both of us, I have the same question for you about the physiologic, hormonal, and behavior evidence. Would you be able to tell me which articles focus on each of those different types of evidence?

"ANSWER: I cannot."

Q. So you were not able to identify for me articles that supported any of those points in your expert report, correct?

A. False. I listed all of them in my report. But I can't tell you from which each -- which article refers to biological, physical, and hormonal responses. So I needed to -- I told you, if I reviewed them for you, I'd be happy to do so. But I don't have them committed to memory. Unless my report had written differently with footnotes marking within the text where those sources came from. But, instead, it's written with all the sources listed at the end of the report.

So, therefore, I'd have to go back and look through each one and figure out from where all of the information came from. But it was all in those articles, and that's why they're listed there. But I did not know from which article each piece of information came.

Q. And you also couldn't remember the key points of some of the articles that I asked you about, correct, Dr. Malloy?

A. What are you referring to?

Q. You couldn't tell me the take-home message of the Merker article that you had relied on, right?

A. The -- I'd have to go back and look at my deposition, or you can read it to me, I guess.

Q. Were you able to tell me the main point of the Derbyshire article, do you remember?

11:24:18 A. Without looking back at it, I was not able to.
11:24:21 Q. Are you familiar with who Penfield and Jasper are, Dr. Malloy?
11:24:25 A. The what?
11:24:26 Q. Are you familiar with who Penfield and Jasper are, Dr. Malloy?
11:24:27 A. No.
11:24:30 Q. Yet, one of the articles cited in your report is by Penfield and Jasper; isn't it?
11:24:31 A. Possibly.
11:24:35 Q. So you don't know sitting here, without looking at your report, whether you relied on that article and cited it or not?
11:24:37 A. If it's in my report, I reviewed it, but I don't have articles memorized by their authors' names. I don't commit to memory according to what the first one of maybe a series of five authors are. So when you mention a certain author's name, I don't automatically know which article that you're referring to around probably a list of 20 articles by that author. So I'd have to go back and look.
11:24:41 Q. Is there more than one article by Penfield and Jasper cited in your expert report, Dr. Malloy?
11:24:43 A. No, there's not.
11:24:46 Q. But you were not familiar with who they were, correct?
11:24:49 A. Again, I think of articles, and my brain remembers them by the title which makes me think of what the content of the
11:24:54
11:24:58
11:25:01
11:25:04
11:25:07
11:25:08
11:25:12
11:25:14
11:25:15
11:25:18
11:25:23

11:25:28 article is. When you just mention the author's name, I
11:25:30 don't -- reliably I can't say for sure what article you're
11:25:33 talking about and from what -- what is in that article unless I
11:25:37 go back and look.
11:25:38 Q. Because you're just not that familiar with the articles,
11:25:41 right?
11:25:41 A. I don't think that's true.
11:25:43 Q. Dr. Malloy, your expert report in this case was based on
11:25:47 your prior testimony to the U.S. Congress and the Senate
11:25:54 correct?
11:25:54 A. Say that one more time.
11:25:55 Q. Sure. Your expert report that you drafted in this case
11:25:58 was based on your prior testimony to the U.S. Congress and the
11:26:01 Senate, correct?
11:26:02 A. I took part of it from that, yes.
11:26:05 Q. And that included written testimony to the Congress and
11:26:08 the Senate, right?
11:26:09 A. Yes.
11:26:09 Q. And the written testimony covered some of the same topics
11:26:13 that you're testifying about today, correct?
11:26:15 A. Yes.
11:26:16 Q. Okay. Dr. Malloy, in your expert report for this case,
11:26:20 you wrote that face skin receptors appear at six weeks LMP,
11:26:25 right?
11:26:26 A. Yes.

11:26:26 Q. But in your 2012 testimony to Congress, you said that they
11:26:31 appear at 10 weeks LMP, didn't you?
11:26:36 MS. ARDOLINO: I'm going to object to the extent that
11:26:38 she's attempting to impeach the witness on something that she
11:26:41 hasn't testified to here today.
11:26:44 MS. RIKELMAN: Your Honor, they've sought to qualify
11:26:46 her as an expert on fetal development, including neuroanatomy.
11:26:50 She talked about the development of pain receptors, and that's
11:26:53 what I'm questioning her about.
11:26:55 THE COURT: The objection is overruled.
11:27:00 Q. (BY MS. RIKELMAN) Dr. Malloy, in your 2012 testimony to
11:27:01 Congress, you said that face skin receptors appear at 10 weeks
11:27:04 LMP, didn't you?
11:27:05 A. So in those different types of receptors, just touch
11:27:11 receptors start at five -- at seven weeks, and then pain
11:27:16 receptors start later on at 10 weeks. And they're all a range.
11:27:18 It's not a hard line in the sand.
11:27:19 Q. Let me just ask you very clearly. I'm talking about face
11:27:23 skin receptors, and I can show you --
11:27:25 A. So face skin receptors, there's some that are just for
11:27:28 touch and there's some that are for pain.
11:27:29 Q. Dr. Malloy, did you say in your 2012 testimony to Congress
11:27:33 that face skin receptors appear at 10 weeks LMP?
11:27:38 A. Well, the first time you asked the question, you said it
11:27:41 was seven in Congress, but now you're saying the opposite.

11:27:44 Q. Why don't we take a look at the documents to see if we can
11:27:48 refresh your recollection.
11:28:18 A. All right.
11:28:18 Q. Dr. Malloy, let's look at the documents one by one. On
11:28:21 page 2 of your expert report you wrote that face skin receptors
11:28:27 appear at six weeks LMP, correct?
11:28:30 MS. ARDOLINO: Again, I'm going to object if she's
11:28:32 attempting to impeach the witness on something that she has not
11:28:35 testified to and which is hearsay.
11:28:38 THE COURT: I'm going to overrule your objection
11:28:39 again and allow the line of questioning.
11:28:41 A. Okay. As I was explaining before --
11:28:42 Q. No. Dr. Malloy, I have a very --
11:28:45 THE COURT: No. Don't interrupt her.
11:28:45 Didn't she start -- did you start answering?
11:28:49 THE WITNESS: Did I what?
11:28:51 THE COURT: Did you start an answer?
11:28:51 THE WITNESS: Yes.
11:28:52 THE COURT: Then let her finish her answer.
11:28:54 MS. RIKELMAN: All right. Yes, Your Honor.
11:28:56 A. The receptors for touch start earlier than the receptors
11:28:59 for pain. So the face touch receptors do start at seven weeks,
11:29:02 and the pain receptors start later, at about 10 weeks. So that
11:29:06 is correct information.
11:29:08 Q. Dr. Malloy, can you please look with me at page 2 of your

11:29:12 expert report. Are you there? Are you on page 2 of your
11:29:31 expert report?
11:29:32 A. I am. I don't think I see anything about receptors here.
11:29:34 Oh, okay.
11:29:34 Q. Are you on page 2, Dr. Malloy?
11:29:36 A. Yes.
11:29:36 Q. Okay. If you look at the bottom paragraph on the page?
11:29:39 A. Yes.
11:29:39 Q. It says --
11:29:43 MS. ARDOLINO: Your Honor, I'm going to object to the
11:29:44 extent that she's attempting to refresh the witness's
11:29:47 recollection.
11:29:47 THE COURT: No. I'm going to allow her to
11:29:49 cross-examine her. I'm going to allow her to have full
11:29:52 cross-examination. I find this line of questioning to be
11:29:54 appropriate cross-examination. You may direct her to what you
11:29:57 want to direct her to and then ask her a question about it.
11:30:02 Q. (BY MS. RIKELMAN) In the last paragraph you wrote,
11:30:06 "Cutaneous sensory receptors (nociceptors) appear as early as
11:30:10 six weeks when face skin receptors appear." Correct?
11:30:13 A. Yes.
11:30:14 Q. Did I read that correctly?
11:30:15 A. Yes.
11:30:15 Q. And then looking at your 2012 congressional testimony, if
11:30:28 you turn to page 66 in the congressional record that I handed

11:30:32 you, do you see your written testimony there, Dr. Malloy?
11:30:38 A. Page 66, you say?
11:30:40 Q. Yes. The written testimony starts on 65 and proceeds to
11:30:43 66. Do you see your written testimony there, Dr. Malloy?
11:31:02 A. Yes.
11:31:03 Q. And on page 66 you wrote in the second paragraph, "As
11:31:06 early as eight weeks post-fertilization, face skin receptors
11:31:11 appear." Did I read that correctly?
11:31:13 A. Yes.
11:31:13 Q. And eight weeks post-fertilization is equal to 10 weeks
11:31:19 LMP, correct?
11:31:21 A. Yes.
11:31:21 Q. So do face skin receptors appear at six weeks LMP or 10
11:31:27 weeks LMP, Dr. Malloy?
11:31:29 A. The -- it's a range. So the touch -- the touch receptors
11:31:35 begin to form -- it's not a black and white. So the touch skin
11:31:39 receptors begin to form about six to seven weeks, and then the
11:31:42 pain receptors, which is the nociceptors, start to form at 10
11:31:46 weeks, which is the same thing as eight weeks
11:31:48 post-fertilization.
11:31:51 Q. The words "face skin receptors" are both in your expert
11:31:57 report and in your congressional testimony, correct?
11:32:00 A. Face skin receptors? Yes.
11:32:07 Q. And to Congress you said they appear at 10 weeks LMP, and
11:32:11 in your expert report in this case you said they appear at six

11:32:14 weeks LMP, correct?
11:32:15 A. Because there's two types of face skin receptors.
11:32:19 Q. Did you specify that to either Congress or in your expert
11:32:23 report in this case?
11:32:24 A. No, I did not.
11:32:25 Q. And when you testified to the Senate in 2016, you said
11:32:29 that face skin receptors form at eight weeks LMP, correct?
11:32:33 A. Is that somewhere else or ...
11:32:38 Q. Do you remember if you said that? Do you need to refresh
11:32:41 your recollection?
11:32:44 A. I would have to -- I'm not going to say that I said it
11:32:50 unless I see it in print, so I don't know.
11:32:52 Q. You need to refresh your recollection?
11:32:55 A. Again, it's a range. So I'm standing here today telling
11:32:58 you that face pain receptors would start at about nine to 10
11:33:02 weeks. So it's a range. It's not black and white. So if I
11:33:04 said eight weeks or I said nine weeks, I mean, there's a whole
11:33:08 range of development. Some babies start developing at eight
11:33:11 weeks; some babies develop them at nine weeks. I don't -- I
11:33:14 think that's all correct information.
11:33:16 Q. But in your expert report in this case you said six weeks
11:33:19 LMP, didn't you?
11:33:20 A. That's when the touch receptors start.
11:33:23 Q. Dr. Malloy, in your -- in you testimony to Congress in
11:33:28 2012, you also said that babies have been observed to

11:33:32 demonstrate the same pain behaviors as older babies beginning
11:33:37 at 23 weeks LMP, correct?
11:33:39 A. Yes.
11:33:40 Q. But in your expert report in this case, you said that
11:33:43 babies have been observed to demonstrate those pain behaviors
11:33:47 at 21 weeks LMP, didn't you?
11:33:49 A. That -- when I testified in the Senate, it was
11:33:54 specifically for born infants that I'm familiar with their
11:33:58 gestational ages, so we didn't really address topics before
11:34:02 that time period. So I didn't really look at information for
11:34:07 the Senate testimony based on infants less than viability
11:34:11 because that's wasn't the point of it. So that report, you
11:34:15 can't -- I don't know exactly why that's coming up here. But
11:34:17 that report was based on the pain experience of babies at a
11:34:21 later gestational age.
11:34:23 Q. Dr. Malloy, can you please look at your expert report
11:34:26 again?
11:34:42 A. (Complies)
11:34:42 Q. In your expert report on page 3, you said that -- in the
11:34:45 middle of the page, "Fetuses at 21 weeks have been observed to
11:34:48 demonstrate the same pain behaviors as older babies (scrunching
11:34:52 up eyes, opening the mouth, clenching hands) in response to
11:34:56 painful stimuli." Correct?
11:34:57 A. Yes.
11:34:57 Q. But to the Senate just last year, you said they exhibit

those behaviors at 23 weeks LMP, correct?
A. That's likely because we were talking about later gestational ages.
Q. So you gave a different number?
A. They're both -- but it's both true statements.
Q. Dr. Malloy, based on the testimony that you've offered here today, it would also be your opinion that an injection into the fetal heart would cause the fetus pain before 22 weeks LMP, correct?
A. I was not asked anything about whether the injection of digoxin would cause a fetus pain.
Q. You're here testifying about whether a fetus can feel pain before 22 weeks LMP, correct?
A. Yes.
Q. I'm asking you: Is it also your opinion that an injection into the fetal heart before 22 weeks LMP would cause a fetus pain.
A. Yes. That's true.
Q. In fact, you described an injection to fetal heart as a horrific procedure to Congress, didn't you?
A. Yes.
Q. Would it also be your opinion that an injection anywhere into the body of the fetus would cause the fetus pain before 22 weeks LMP?
A. Yes.

11:36:10 Q. Dr. Malloy, you believe that abortion is never morally
11:36:13 appropriate, correct?
11:36:14 A. Morally appropriate? I guess I don't think it's the
11:36:34 morally correct choice.
11:36:36 Q. You believe it's never the morally correct choice,
11:36:39 correct?
11:36:40 A. I think so.
11:36:47 Q. And you consider yourself an advocate for the unborn,
11:36:50 right?
11:36:50 A. Yes.
11:36:51 Q. On your CV you list that you're affiliated with American
11:36:56 Association of Pro-Life Obstetricians and Gynecologists,
11:37:00 correct?
11:37:00 A. Yes.
11:37:01 Q. And that's a pro-life organization opposed to abortion?
11:37:05 A. Yes.
11:37:05 Q. And you've spoken at the Notre Dame Vita Institute,
11:37:09 correct?
11:37:09 A. Yes.
11:37:10 Q. And that's a week-long program which describes itself as
11:37:13 helping participants prepare themselves to be effective
11:37:17 advocates on behalf of the unborn, right?
11:37:18 A. Yes.
11:37:19 Q. And you're currently drafting a paper for the Charlotte
11:37:23 Lozier Institute; is that right?

11:37:24 A. Yes.
11:37:25 Q. And that's a pro-life organization?
11:37:26 A. Yes.
11:37:26 Q. Dr. Malloy, you worked for several years at a crisis pregnancy center in Illinois, correct?
11:37:31
11:37:33 A. Yes.
11:37:34 Q. And that crisis pregnancy center was called Woman's Choice Services, right?
11:37:39
11:37:40 A. Yes.
11:37:40 Q. But if any of the women who came to the crisis pregnancy center asked you for a referral for an abortion, you wouldn't have given it to them, right?
11:37:43
11:37:46
11:37:48 A. As I said in my deposition, no one -- we were right next to an abortion clinic, so no one asked me for a referral to the abortion clinic.
11:37:51
11:37:55
11:37:55 Q. But if anyone had asked you for a referral, you wouldn't have given it them, right?
11:37:59
11:38:00 A. To go next door? I probably wouldn't have given them a referral to go next door.
11:38:03
11:38:05 Q. You wouldn't have given --
11:38:05 A. I would not have given them a referral to walk next door.
11:38:08 Q. You wouldn't have given them a referral for an abortion?
11:38:09 A. You don't need a referral for an abortion.
11:38:11 Q. Dr. Malloy, do you want to turn to page -- to 222 of your deposition transcript, please.
11:38:15

11:38:17 A. (Complies)
11:38:42 Q. If you look at the bottom of the page starting at line 24:
11:38:45 "Question: But if they asked for a referral to an
11:38:48 abortion provider, would you have given it to them?
11:38:51 "Answer: I wouldn't have given it to them."
11:38:53 Did I read that correctly?
11:38:54 A. Yes.
11:38:54 Q. You were the medical director of the Crisis Pregnancy
11:39:01 Center, correct, Dr. Malloy?
11:39:02 A. Yes.
11:39:03 Q. But you never provided any medical care in that role,
11:39:05 right?
11:39:05 A. I supervised ultrasounds and referred them to obstetrical
11:39:11 services. We had a licensed ultrasonographer, and I was the
11:39:21 medical director of the services she provided.
11:39:24 Q. And, Dr. Malloy, you didn't actually provide any medical
11:39:26 care in your role as medical director, right?
11:39:29 A. I supervised ultrasounds for the mothers and babies.
11:39:34 Q. But you didn't provide any medical care, correct?
11:39:36 A. We administered pregnancy tests. We took blood pressure.
11:39:40 We measured their weight. Measured the fundal height.
11:39:45 Q. Did you provide any medical care in that role?
11:39:48 A. Yes.
11:39:50 Q. Can you please look at page 17 of your deposition
11:39:54 transcript.

11:40:18 A. (Complies)
11:40:18 Q. At the bottom on line 22 on page 216:
11:40:22 "Question: What were your duties and
11:40:24 responsibilities as the medical director of Woman's Choice
11:40:28 Services?
11:40:28 "Answer: For the most part I kind of organized the
11:40:30 files and referred the women for obstetrical care to an actual
11:40:32 obstetrician. We did have an ultrasound machine for
11:40:35 ultrasound. A sonographer would perform the ultrasound to kind
11:40:39 of look at dating questions of how far along the pregnancy was.
11:40:42 My role was just kind of a manager type. I didn't really give
11:40:45 medical care."
11:40:46 Did I read that correctly?
11:40:48 A. That's true, yes.
11:40:49 Q. And the reason you didn't provide medical care is because
11:40:51 you don't have the expertise to provide medical care to
11:40:54 pregnant women, correct?
11:40:56 MS. ARDOLINO: Object -- withdrawn.
11:41:00 A. I'm not an obstetrician, correct. But I can -- I mean, I
11:41:03 don't know that you have to be a doctor to give someone a
11:41:06 pregnancy test.
11:41:07 Q. But you don't have the expertise to provide medical care
11:41:10 to pregnant women or answer questions about pregnancy, correct?
11:41:13 A. I think I'm capable of administering a pregnancy test.
11:41:17 Q. Can you please answer my question? Do you have the

expertise to provide medical to pregnant women or answer their questions about pregnancy?

A. I do have expertise to administer a pregnancy test.

Q. Okay. Dr. Malloy, can you look at page 218 of your deposition transcript, line 12:

"Question: Why did you stop being the medical director there in 2013?

"Answer: Because the obstetrician that I was referring people to took it over because it didn't really make sense for me to be an intermediary. It made more sense for him to take on that role, and he could answer the pregnancy questions that I obviously didn't have the expertise to answer."

Did I read that correctly?

A. You read that correctly. But basic questions about pregnancy I feel confident as a physician to answer. But I'm not an obstetrician, nor do I pretend it to be. So it made sense for an obstetrician to be the medical director.

MS. RIKELMAN: No further questions, Your Honor.

THE COURT: Redirect?

REDIRECT EXAMINATION

BY MS. ARDOLINO:

Q. Dr. Malloy, is it fair to say that there is a dispute in the medical literature regarding the existence of fetal pain?

A. Yes.

11:42:47 Q. When you did your research, what -- what types of
11:42:54 articles -- or were there articles that you found that weighed
11:43:00 in on both sides of this dispute?
11:43:03 A. I think most of the articles would mention, I think,
11:43:11 points on both sides.
11:43:12 Q. Okay. And did you consider all of the relevant medical
11:43:17 literature, including articles that didn't support --
11:43:22 necessarily support your view in forming your opinions in this
11:43:26 case?
11:43:27 A. Yes. To the best of my abilities.
11:43:30 Q. Okay. Is it good research practice to do that?
11:43:34 A. Yes.
11:43:35 Q. Okay. And did you refer to some of those articles as
11:43:44 materials that you considered or reviewed in your report?
11:43:47 A. Yes.
11:43:47 Q. Can you explain how you learned about fetal development?
11:44:05 A. I think, as I mentioned before, you learn about fetal
11:44:11 development in medical school and pediatric residency and
11:44:16 neonatology training.
11:44:17 Q. Okay. Do you have any idea of how many textbooks you've
11:44:21 read that involved topics on fetal development?
11:44:29 A. I mean, I've been doing this for 15 years, and I probably
11:44:32 have a bookshelf of 30 textbooks on fetal development.
11:44:38 Q. Do you have any idea of how many conferences or continuing
11:44:45 medical education seminars you may have attended that involve

topics on fetal development?
A. I'm -- I'm not sure. It's kind of a continual process. I don't know.
Q. Do you have any idea how many articles you may have read on fetal development?
A. I mean, hundreds.
Q. Okay. And did all of those readings and trainings contribute in one way or another to form -- to your forming your opinions in this case today?
A. Yes.
Q. There was some talk about face skin receptors. Dr. Malloy, is it your understanding that face skin receptors appear prior to 15 -- or begin to appear prior to 15 weeks LMP?
A. Yes.
Q. Is it your understanding that pain receptors or nociceptors begin to appear prior to 15 weeks LMP?
A. Yes.
Q. Are you board certified in pediatrics?
A. Yes.
Q. So you would consider yourself an expert in pediatrics, correct?
A. Yes.
Q. Can you, sitting here today, tell this Court definitively that a fetus feels pain at any gestational age?
A. No.

11:46:27 Q. Okay. Can -- do you believe that it is possible, with
11:46:35 current medical knowledge, for anyone to definitively say that
11:46:40 a fetus at any particular gestational age cannot feel pain?
11:46:45 A. I don't think it's possible for them to -- to say, at
11:46:50 least in the second and third trimester, that the fetus does
11:46:54 not feel pain.
11:46:54 Q. You were questioned about your House and Senate testimony.
11:47:27 Is it your understanding that the statements that you made in
11:47:30 that testimony were accurate as to your understanding of pain
11:47:40 experience at young gestational ages at the time that you made
11:47:44 those statements?
11:47:45 A. Yes.
11:47:45 Q. Can you tell me -- you testified earlier that an injection
11:48:16 with a needle would be potentially painful for a fetus,
11:48:20 correct?
11:48:21 A. Yes.
11:48:21 Q. Is it -- do you have an opinion about whether dismembering
11:48:29 a fetus limb by limb or piece by piece could cause pain?
11:48:35 A. My opinion would be that the dismemberment would be more
11:48:42 painful than an injection.
11:48:44 Q. You testified earlier that you support pro-life causes.
11:48:57 Is that an accurate summary of your testimony?
11:49:00 A. Yes.
11:49:00 Q. Okay. When did you first become interested in pro-life
11:49:08 causes?

11:49:08 A. Truthfully, during my fellowship and training in
11:49:13 neonatology, because it just seemed illogical that we were
11:49:19 fighting so hard to save babies at 22, 23, 24, 25 weeks and up,
11:49:27 and then the same babies in different parts of medicine were
11:49:30 being aborted. It just didn't make sense that the same babies
11:49:34 I was trying to save were being killed in other scenarios.
11:49:38 Q. Does anything about how -- what you have learned in your
11:49:42 medical training and education or practice as a neonatologist
11:49:47 about human development inform your perspective on your
11:49:54 pro-life stance?
11:49:56 A. Yes. That's what contributes to it, because I really do
11:50:02 see the humanity of the unborn and premature babies. And,
11:50:07 obviously, a neonate at 23 weeks doesn't look like a baby born
11:50:12 at term, but very human, very interactive, very much aware of
11:50:18 its surroundings. So, actually, the biggest part of my
11:50:23 pro-life leaning is from medical science.
11:50:28 Q. Does any of the literature on fetal pain inform your
11:50:45 opinion about that?
11:50:47 A. Yes. I mean, it just -- it all seems to flow together.
11:50:55 It seems consistent. So organ systems in development, whether
11:50:58 it's pulmonary or neurological or gastrointestinal, it's all
11:51:04 the system in development. So you can't -- it's another
11:51:06 example to me of you can't draw a line in the sand and say this
11:51:11 is not a human, this is a human. It all just a human
11:51:15 developing in the same sense. Even after birth they're still

developing.

MS. ARDOLINO: Okay. I pass the witness.

MS. RIKELMAN: No further questions, Your Honor.

THE COURT: You may step down.

MR. STEPHENS: Your Honor I believe that is the State's last witness, but if we could have a minute or two to make sure we don't have any other exhibits to offer into evidence. We'd just ask for a short amount of time.

THE COURT: You may.

MR. STEPHENS: I believe there may be a question on sealing as well.

THE COURT: All right. Take a few minutes and determine what you have left.

MR. LAWRENCE: Your Honor, I think we just want to confirm that --

MS. STEWART: I think they want to do redacted version of this.

Okay. Your Honor, it sounds like there are two documents where there's a question as to whether or not they need to be sealed. And it's Defendants' Exhibit 8 and Defendants' Exhibit 13. Thirteen has already been sealed.

Defendants' Exhibit 8.

THE COURT: Defendants' Exhibit 13 I definitely ordered sealed, and I ordered it sealed before I actually admitted it. So it's under seal.

11:54:26 Now, Defendant's Number 8 ...
11:54:30 MR. STEPHENS: Has not been sealed.
11:54:32 MR. LAWRENCE: But it has been marked "highly
11:54:35 confidential" by the Department of State Health Services.
11:54:38 THE COURT: But that's different than a record
11:54:40 notation.
11:54:41 MR. LAWRENCE: Well, I believe it may be pursuant to
11:54:43 statute that these records are not to be made public,
11:54:46 Your Honor. So that's why they marked them that way.
11:54:51 MR. HILTON: If I may, Your Honor? There are
11:54:52 portions of Exhibit 8 that need to be kept under seal or
11:54:55 redacted in any public filing. There are portions of that can
11:54:58 be made available in the public record that don't need to be
11:55:03 confidential.
11:55:04 MR. LAWRENCE: And I haven't seen a redacted version.
11:55:06 If they want to provide one, we can work that out after the
11:55:09 fact. But I don't know that we need to belabor it here.
11:55:11 MR. HILTON: That was my understanding of how we
11:55:12 could handle this, was to file a motion to seal and provided a
11:55:15 redacted copy after the fact. If you'd like me to do something
11:55:16 else, I'm happy to do that. If there's a misunderstanding?
11:55:18 MR. LAWRENCE: I'm fine to work that out later, as we
11:55:21 have limited time.
11:55:22 THE COURT: Well, you want to define "later" for me,
11:55:25 because my hope is, before we leave this building today, we'll

11:55:28 know what the record is.

11:55:29 MR. LAWRENCE: That's fine, Your Honor.

11:55:30 MR. STEPHENS: We could put it under seal, and then
11:55:33 we could substitute a redacted version later today, if
11:55:36 that's ...

11:55:36 MR. LAWRENCE: That's fine. We'll work that out.

11:55:38 THE COURT: All right. Here is my order. Right now
11:55:40 Defendant's Number 8, which has been admitted into evidence, is
11:55:44 placed under seal in its entirety. If you work out an
11:55:48 agreement on redacting, then I will lift the seal on the
11:55:53 unredacted parts.

11:55:55 MR. LAWRENCE: Perfect. Thank you. Your Honor.

11:56:00 MS. CREPPS: Your Honor, I had one question in terms
11:56:03 of the schedule for later today. And that was whether you
11:56:06 wanted to start oral argument at 3:00 or at 3:30? Or is that
11:56:12 up to us, too.

11:56:13 THE COURT: Well, it depends. The upshot of what I
11:56:17 did yesterday was effectively give you a choice as to whether
11:56:21 you were going to argue for 45 minutes apiece or you were going
11:56:24 to argue for an hour apiece. If it's an hour apiece, then we
11:56:28 definitely need to start by 3 o'clock, or that would be my
11:56:33 preference. If you're going to take less time than that, then
11:56:35 we can be flexible there. So what schedule do you want to be
11:56:39 on between now and the end of the day?

11:56:42 MR. MCCARTY: Well, Your Honor, I thought we were

11:56:44 going to start arguments at 3:00 and prepared accordingly.
11:56:49 THE COURT: Well, does that anticipate --
11:56:51 MR. MCCARTY: An hour.
11:56:53 THE COURT: An hour argument.
11:56:55 Ms. Crepps?
11:56:56 MS. CREPPS: Well, Your Honor we are feeling a little
11:56:59 pressed for time and would prefer 45 minutes. But it's -- if
11:57:03 the Court prefers an hour, that's what we'll do. Sorry. That
11:57:08 wasn't a very fair answer.
11:57:10 THE COURT: I know I looked strange then. I really
11:57:16 have a hard time dealing with you-all. I love you all
11:57:19 tremendously, but this is an important case. Witness the
11:57:24 people in the audience. Witness what has been in the newspaper
11:57:28 about it since the beginning. It also has had a lot of medical
11:57:34 data in it that, to one degree or another, are going to impact
11:57:40 on the ultimate issue that the Court -- or issues the Court is
11:57:43 going to have to decide in this case.
11:57:45 As I said earlier, I would find oral argument helpful
11:57:49 in this case. It would be helpful to me in reaching my
11:57:54 decision because it will focus, I hope, on what you think are
11:57:59 the important issues in the case that the Court needs to rule
11:58:02 on legally. And, secondly, I want you to develop -- each side
11:58:11 to develop a record that puts your best foot forward when this
11:58:18 case proceeds to an appellate court.
11:58:20 So it's not whether I would prefer 45 minutes or I

would prefer an hour. It is what gets this case in the best shape to go forward from your point of view. At the end of the day, it's your case. I will make my decisions, but what works best for you-all?

MS. CREPPS: Your Honor. The plaintiffs would request 45 minutes for oral argument so that we can have additional time to put on our rebuttal case.

MR. MCCARTY: Your Honor, I -- I certainly prepared an argument for an hour and believed, as I expect, that there will be some interaction with the Court during the course of that. I'm sure you'll have questions for me.

THE COURT: Okay. Let me make this real easy for you. We're going to commence oral argument at 3:30, and each side gets an hour. That puts us to 5:30 if we have to. I urge you not to take a complete hour.

But that will allow the plaintiffs to put on what they need to put on and will allow the State to argue for whatever length of time they want to argue, effectively.

MS. CREPPS: Thank you, Your Honor.

MR. MCCARTY: Thank you, Your Honor.

THE COURT: All right. Anything else for this morning?

MR. STEPHENS: Your Honor, that is all from the State.

MR. LAWRENCE: Nothing else at this point,

11:59:49 Your Honor.

11:59:50 THE COURT: All right. Then we'll be in recess until
11:59:52 2 o'clock.

09:01:19 (Recess)

13:49:54 (Open court)

13:49:54 THE COURT: I know we did some wrap-up just before we
14:00:37 recessed for the noon hour. But did the Attorney General rest?

14:00:40 MR. STEPHENS: Not yet, Your Honor. I did want to
14:00:45 mention we have an agreement on Defendants' Exhibit 8 in
14:00:47 redacted form. I think it's been addressed in the record.

14:00:50 MR. LAWRENCE: Yes, Your Honor. It's been redacted
14:00:52 and can come in the record.

14:00:53 THE COURT: All right. Then it's admitted in
14:00:55 redacted form. And if you'll just make sure, when we finish
14:01:03 and close the record, that both sides coordinate with the court
14:01:04 reporter and my courtroom deputy to make sure that what is in
14:01:13 the record is what everybody believes ought to be in the record
14:01:16 in this regard.

14:01:17 MR. STEPHENS: There also were the exhibits that were
14:01:19 the subject of a motion that we had filed that came up
14:01:21 yesterday afternoon, the redacted exhibits. And that I think
14:01:24 is still an open question. I just wanted to bring it up now
14:01:26 because the Court had said yesterday, it was my understanding,
14:01:30 that those needed to be addressed at some point as to what will
14:01:34 be redacted and what won't be.

THE COURT: Which exhibits are those?

MR. STEPHENS: The ones I have on my list is 56, 64, 65, 76, 78, 87, 88, 89, 91 and 97.

THE COURT: All right. Defendants' exhibits or Plaintiffs' exhibits?

MR. STEPHENS: Defendants' exhibits.

THE COURT: Well, let's just deal with that right now.

MR. STEPHENS: Mr. Hilton is going to address those.

THE COURT: All right. I have my binder in front of me, and I am looking at Exhibit Number 56, which is in the binder. That exhibit contains no redacting in what I'm looking at.

So we're going to have to take this up one at a time and what ought to be redacted and why.

MS. COHEN: So, Your Honor, actually, I think we can do 56 and 64 together. They're the same redactions that we're prosing because the documents are very similar. These are Plaintiff Planned Parenthood Greater Texas Surgical Health Services Medical Policies and Procedures.

The relevant portions are not redacted regarding D&E procedures, fetal demise, digoxin, et cetera. But these documents contain a variety of other policies that are not relevant to this case and are proprietary, such as around physical facilities, personnel policies, things of that nature

that just have no relevance. The State was able to cross the witnesses on the unredacted portion with no problem, and we just don't see any need for the remaining proprietary materials to be public. And so we would ask that the nonrelevant portions be redacted.

THE COURT: All right. Mr. Hilton?

MR. HILTON: Your Honor, this is exhibit where, you know, basically entire pages were redacted. And our position is that it's not for the plaintiffs to decide on their own what's relevant and what isn't. We would argue that, at least for these, they --

THE COURT: Well tell me what you deem as relevant to the issues that I'm ultimately going to decide in this case.

MR. HILTON: The policies and procedures of the plaintiffs and the plaintiff entities are crucial to the resolution of this case. And Plaintiffs have decided which ones they think should be redacted and which ones shouldn't.

THE COURT: But tell me what they want redacted that you want put back in.

MR. HILTON: Your Honor, it's our position that the whole policy is important to be in the record.

THE COURT: Why is it important? Tell me the issue it's important to and where you have been deprived your right to cross-examine or put on evidence that you want to put on about this and why.

14:04:41 MR. HILTON: The performance of second-trimester
14:04:43 abortions and D&Es, in particular, is described in these
14:04:47 documents. And we believe that the entire document is relevant
14:04:49 to describing how that procedure takes place from the moment a
14:04:53 patient walks into the clinic to the moment they leave.
14:04:55 Your Honor has heard a lot of testimony regarding the
14:04:57 patients' experiences, not just when they're in the operating
14:05:02 room itself, but throughout their interaction with the clinic.
14:05:06 And these procedures are directly relevant to all of that
14:05:09 testimony.
14:05:10 MS. COHEN: Your Honor, we believe that we've left
14:05:13 un-redacted the relevant portions regarding procedures,
14:05:16 including pre-abortion procedures, feticide, and the abortion
14:05:19 procedures themselves. Those are all unredacted.
14:05:28 THE COURT: Well, I'm going to admit the exhibit in
14:05:30 redacted form, not unredacted form. I think the defendants had
14:05:35 a full opportunity to cross-examine on all of the procedures
14:05:38 and everything that happened in the clinics. I think anything
14:05:43 else would be cumulative of testimony that I've already heard
14:05:48 and might indeed be proprietary information. So the exhibits
14:05:54 will be admitted in redacted form.
14:05:57 If the defendants determine after final judgment in
14:06:01 this case and want to raise that as reversible error, then I
14:06:06 will allow unredacted copies to go to the Circuit as sealed
14:06:11 documents in order that the circuit can determine whether or

not I erred or did not.

MR. HILTON: Thank you, Your Honor. I was just going to suggest we would like sealed copies of the unredacted exhibits in the record as well so that we have that to go --

THE COURT: Well, that's what I just said.

MR. HILTON: Thank you.

MS. COHEN: The remaining documents all have essentially the same issue, so we may be able to address these as a group. If not, I'm happy to go one by one. The issue for the remaining documents is the names of staff members of the plaintiff facilities and physicians of the plaintiff facilities, folks who are not plaintiffs in the case and who were not witnesses, most of whom were not even mentioned on the stand.

We see no need for these folks' names to be in the publicly filed documents. Random staff members' names were copied on e-mails are not relevant to the case at all. These folks have serious safety concerns around being associated with abortion. As recently as a couple of weeks ago, one of the plaintiff facilities had a bomb threat -- one of the facilities in Dallas at the end of October. And we just see no reason why these should be made public. We would submit that the redacted versions be public and the unredacted versions be submitted under seal as well.

MR. HILTON: As an initial matter, we would disagree

that we can treat these as a group. The particular individuals at issue are very relevant because you've heard testimony regarding not only some of these doctors that are being redacted, but some of the other individuals as well. Their names appear in other documents that are on the record. So I think there should be a specific showing with respect to each name that we're dealing with.

Another part of the problem is that many of these providers are publicly known through other, you know, available sources to the public as abortion providers. So, to the extent that there were concerns regarding doctors not being publicly identified as abortion providers, we've agreed to refer to them as pseudonyms in a number of cases. These names, my understanding, is none of those individuals fall in that category.

MS. COHEN: That's correct, Your Honor. The physicians who were not publicly known do have pseudonyms. That doesn't remove the names of physicians who are not in that category from having safety concerns. And the staff members I think of that facilities are in a completely separate category. They're generally not public at all.

But, you know, I think, Your Honor, we do want to go ahead and proceed with our rebuttal case. So if -- I don't know what the best way to proceed is. Perhaps we could -- I don't know if you-all need to go document by document and

14:08:47 explain which names you think are relevant. I don't know that
14:08:50 right now is the best way to go about doing that. I don't if
14:08:53 Your Honor would want us to submit something in writing
14:08:55 tomorrow or ...
14:08:57 THE COURT: No. There's not going to be anything
14:09:00 tomorrow. Today is the day. I would have thought that
14:09:05 you-all -- this is something you would have talked about at
14:09:08 great length and worked out before now.
14:09:10 If I've got one criticism of the lawyers in this
14:09:13 case, I think this has been a well-tried case, but you have not
14:09:17 done as much between yourselves to reach agreements on
14:09:20 insignificant matters to move this case along.
14:09:24 This is one of the instances where I think it should
14:09:27 be self-evident what names are previously in the public record,
14:09:33 what names are in this record, what names are well known. It
14:09:38 seems to me to a degree we might be picking nits on what we
14:09:43 redact and don't redact, and these are exactly the type of
14:09:48 things that I would have thought the lawyers would have sat
14:09:50 down well before this trial and worked out with regard to
14:09:53 exhibits.
14:09:54 So the question is: How long do you want to hang
14:09:59 around here and do it, because we're going to do it today? I'm
14:10:02 going to close this record today. As Grant said at
14:10:12 Spotsylvania Courthouse in the summer of 1864, "I intend to
14:10:16 fight it out on this line if it takes all summer." So ...

14:10:20 MR. HILTON: Your Honor, we'll happily follow
14:10:23 whatever procedure would be most convenient for you. You know,
14:10:26 our position across the board is that these names are publicly
14:10:29 identifiable and that it's a clear issue. So that's where I
14:10:31 think the issue is from our end.
14:10:33 MR. LAWRENCE: Perhaps Ms. Cohen and Mr. Hilton
14:10:35 can -- we can proceed with our rebuttal case and they can work
14:10:38 out what they can outside and see what we can do?
14:10:40 MR. STEPHENS: A problem we have here, Judge, is that
14:10:43 for the past two months we have actually tried to address
14:10:46 names, redactions, and we on countless occasions tried to say,
14:10:52 hey, here's a name of someone who is on the Internet. It's
14:10:55 publicly available. It's been used in court. And they say we
14:10:58 want to redact it.
14:10:59 THE COURT: All right. Here's --
14:11:00 MR. STEPHENS: That's where we are on the last day of
14:11:03 trial.
14:11:03 THE COURT: Here's what we're going to do:
14:11:05 Mr. Lawrence's suggestion is well taken. Each side shall
14:11:08 appoint a champion to fight this out while we are continuing
14:11:14 forward. I will tell you my inclination is, unless there is a
14:11:20 compelling reason not to, I'm going to allow the names. So
14:11:24 bear that in mind. If they do appear on the Internet, if
14:11:28 they're easily findable, if they're identifiable people, this
14:11:31 is the a public trial. If there are people that have not

otherwise been involved and people that just got drawn into this, then I'm more than willing to protect their privacy.

So look on that, and two of you work on that while we're proceeding forward with rebuttal.

MR. HILTON: Understood.

MR. STEPHENS: All right. And, with that, Your Honor the State rests.

THE COURT: All right. The State rests subject to what we do with the remaining exhibits that we're going to talk about.

MR. STEPHENS: Right.

THE COURT: All right. Are the plaintiffs ready to proceed with their rebuttal case?

MS. RIKELMAN: Yes, Your Honor.

THE COURT: All right. You may do so.

MS. RIKELMAN: The plaintiffs call Dr. Steven Ralston to the stand.

THE COURT: All right. And state your name one more time for this phase of the proceedings.

MS. RIKELMAN: Yes, Your Honor Julie Rikelman for the plaintiffs.

THE COURT: Very good.

(Witness sworn)

****

STEVEN RALSTON, M.D., M.P.H.,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. RIKELMAN:

Q. Dr. Ralston, can you please state and spell your full name for the record.

A. Sure Steven Joseph Ralston, R-a-l-s-t-o-n.

Q. How are you currently employed?

A. I am employed by the University of Pennsylvania and Pennsylvania Hospital.

Q. And what is your position there?

A. I am the chair of ob-gyn at Pennsylvania Hospital and the vice chair for obstetrics in the University of Pennsylvania.

Q. And what duties and responsibilities does that position entail?

A. It's some part clinical and part administrative job. My clinical position is about 50 percent of my time, and I spend doing that maternal fetal medicine high-risk obstetrics. And the administrative time is spent really managing a very busy obstetrical and gynecological service at the hospital and directing our educational programs at the university.

Q. And what percentage of your time is spent on clinical care?

A. About half.

Q. Dr. Ralston, in front of you you should have binders of

14:13:31 the plaintiffs exhibits. Could you please turn to Plaintiffs'
14:13:34 Exhibit Number 5?
14:13:42 A. Sure.
14:13:42 Q. Is Plaintiffs' Exhibit 5 an accurate summary -- I'm sorry.
14:13:47 Does Plaintiffs' Exhibit 5 appear to be your current CV,
14:13:51 Dr. Ralston?
14:13:52 A. It is, yes.
14:13:53 Q. And is that CV an accurate summary of your educational and
14:13:56 professional history, your publications, and other credentials?
14:14:00 A. It is.
14:14:02 MS. RIKELMAN: Your Honor, we move Exhibit 5 into
14:14:03 evidence, please.
14:14:08 MS. ARDOLINO: No objection, at this time.
14:14:10 Emily Ardolino for Attorney General Ken Paxton.
14:14:13 THE COURT: Defendant's Exhibit Number 5 is admitted.
14:14:17 Plaintiffs' Exhibit Number 5 is admitted.
14:14:23 Q. (BY MS. RIKELMAN) Dr. Ralston, you mentioned that you're a
14:14:25 maternal fetal medicine specialist, correct?
14:14:28 A. Yes.
14:14:28 Q. Can you please describe what the field of maternal fetal
14:14:32 medicine focuses on?
14:14:33 A. Sure. There's two halves of it. The maternal side is
14:14:35 taking care of women who have medical problems during their
14:14:38 pregnancy or have had bad things happen to them in previous
14:14:42 pregnancies or are currently experiencing complications to

their pregnancy.

The fetal side is about assessing the health and well-being of the fetus, both from a growth standpoint or from a genetic well-being or structural well-being and ensuring the safety of the fetus during the pregnancy and maximizing the potential for both the mother and the fetus during pregnancy.

Q. Is knowledge of fetal development important to your work as a maternal fetal medicine specialist?

A. It's critical.

Q. Do you interact with neurologists and neurosurgeons as part of your work as a maternal fetal medicine specialists?

A. Yes, I do.

Q. And do those interactions include discussions of fetal brain development?

A. Yes.

Q. Do you currently perform any treatments on fetuses while they're still in the uterus Dr. Ralston?

A. I do.

Q. What type of treatments?

A. They range from noninvasive treatments of giving women medications that cross the placenta and then have an impact on fetal physiology to needle procedures on the fetus itself. And those primarily involve either taking out fluid collections that might be in the fetus in various cavities that you need to remove or placing shunts in fetuses to make a pathway from one

14:15:58 cavity into the amniotic fluid to relieve an obstruction or
14:16:04 sampling blood from the umbilical cord and/or transfusing blood
14:16:08 into the umbilical cord in the case of fetal anemia.
14:16:12 Q. And do you perform those treatments under ultrasound
14:16:15 guidance?
14:16:15 A. Yes.
14:16:15 Q. And you personally yourself perform those treatments,
14:16:19 correct?
14:16:19 A. Yes, I do.
14:16:20 Q. Dr. Ralston, do you perform ultrasounds on pregnant women
14:16:24 to evaluate fetal development?
14:16:25 A. Yes. That's part of my daily job.
14:16:27 Q. How often do you perform those ultrasounds?
14:16:31 A. So almost every day I'm doing ultrasounds in some
14:16:34 location, either in our prenatal diagnosis unit or on the labor
14:16:38 floor in our triage unit. But I would say I probably do 100
14:16:43 ultrasounds a week.
14:16:44 Q. 100 every week?
14:16:45 A. A week.
14:16:46 Q. Is it your job to read those ultrasounds?
14:16:48 A. I perform them and I read them.
14:16:50 Q. And as part of reading the ultrasound, are you determining
14:16:54 whether or not the fetus is developing normally?
14:16:57 A. Yes.
14:16:57 Q. And does that include a determination of whether the fetal

14:17:01 brain is developing normally?
14:17:02 A. Yes.
14:17:03 Q. And every other fetal system?
14:17:05 A. Yes.
14:17:06 Q. Is it fair to say that direct observation of a fetus in
14:17:10 the uterus is a critical part of your work as a maternal fetal
14:17:14 medicine specialist?
14:17:16 A. Yes.
14:17:16 Q. As part of your clinical care, do you advise your pregnant
14:17:21 patients on the issue of whether a fetus can feel pain in the
14:17:24 uterus?
14:17:25 A. Occasionally, yes.
14:17:32 MS. RIKELMAN: Your Honor, at this time Plaintiffs
14:17:33 would like to offer Dr. Ralston as an expert in fetal
14:17:36 development, including the issue of fetal pain under rule 702.
14:17:41 MS. ARDOLINO: No objection.
14:17:43 THE COURT: You may proceed, and the witness will be
14:17:45 qualified as an expert.
14:17:48 Q. (BY MS. RIKELMAN) Dr. Ralston, do you have a medical
14:17:50 opinion on whether a fetus can feel pain in utero?
14:17:55 A. I do.
14:17:56 Q. And what is that opinion?
14:17:57 A. It cannot feel pain.
14:17:58 Q. It's your opinion that a fetus cannot feel pain throughout
14:18:03 gestational development in the uterus?

14:18:05 A. Correct.
14:18:06 Q. What's the basis for that opinion?
14:18:09 A. There's three bases. One is sort of knowledge about the
14:18:15 connections in the brain that are forming during fetal
14:18:18 development and the maturity of those connections.
14:18:22 Two is information that we know about the state --
14:18:26 the behavioral state of the fetus inside the uterus. And this
14:18:31 derives from my reading, my training as a doctor and as an
14:18:35 ob-gyn and maternal fetal medicine specialist, as well as my
14:18:40 daily clinical life in dealing with fetuses at all stages of
14:18:44 development inside the uterus.
14:18:47 Q. In giving your opinion, you just mentioned connections in
14:18:52 the brain -- in the fetal brain, correct?
14:18:54 A. Correct.
14:18:54 Q. At what point in fetal development is it your medical
14:19:01 opinion that the connections in the fetal brain have developed
14:19:03 enough for a fetus -- for it to be possible for a fetus to feel
14:19:07 pain?
14:19:08 A. Yes. I think that since the -- the consensus of most of
14:19:12 the medical community is that the cortex is required for pain
14:19:16 perception and recognition, that until the cortex is connected
14:19:20 to the rest of the neurologic system, that that can't occur.
14:19:24 And that's really at about 24 weeks.
14:19:26 Q. So it's your opinion that the cortex needs to have
14:19:30 developed in order for the minimal systems to perceive pain to

14:19:35 exist?
14:19:35 A. Yes.
14:19:36 Q. Is that correct?
14:19:36 A. Yes.
14:19:37 Q. And the cortex does not develop until at least 24 weeks
14:19:40 LMP? Is that what you said?
14:19:42 A. Well, the cortex is developing prior to that time. The
14:19:45 cortex is developing actually very early on. It's just not
14:19:48 connected to the rest of neurologic system, especially the pain
14:19:52 fibers that are coming from the periphery until the 24th week.
14:19:55 Q. So connections do not occur until at least 24 weeks LMP;
14:19:59 is that right?
14:20:00 A. Exactly.
14:20:00 MS. ARDOLINO: Objection, leading.
14:20:03 THE COURT: Sustained.
14:20:03 Q. (BY MS. RIKELMAN) Dr. Ralston, at what point are the
14:20:06 connections to the cortex developed?
14:20:07 A. They start developing at 24 weeks.
14:20:12 Q. Can you tell us what the basis is for your opinion that
14:20:15 the cortex is necessary for a fetus to feel pain?
14:20:17 A. So there are many studies in the literature looking at
14:20:23 where pain is centered in the human brain. There are data from
14:20:35 stroke victims and from patients who have had lesions to their
14:20:38 cortex and what that does to their pain perception. And then
14:20:42 there have been radiologic studies of people who are in pain

looking at what parts of the brain are lighting up. And it's the basis of those studies and that data that the consensus has developed.

Q. Are there any particular peer-reviewed articles that you're relying on for your opinion that the cortex has to be developed in order for a fetus to be able to feel pain?

A. Sure. There are several. I think in my opinion I cite articles by Derbyshire, by Mellor, who have look at various reviews out of many articles looking at the development of the fetal brain.

There is an interesting article by Apkarian, et al. that looks at fetal brain imaging in patients who have been having pain syndrome, both acute and chronic. And in that article they map out the brain with very modern technological studies -- functional MRIs, PET scans, et cetera, that are looking at blood flow and function within the brain during pain.

And what that study showed me was that, not only are the mapping of these fine networks in the brain fairly consistent across brain -- across pain syndromes, but that the same brain structures keep coming up in many, many studies across many, many different kinds of pain and many different kinds of brain imaging studies.

Q. The Apkarian article that you just mentioned, the one that concerns brain imaging studies, how many different brain

14:22:14 imaging studies did that article look at?
14:22:17 A. So this was a meta-analysis, so they initially looked at
14:22:21 hundreds and hundreds of articles through PubMed searches and
14:22:27 windowed that down to what they thought were the relevant
14:22:29 articles. I think they probably cite over 200 in there in
14:22:33 their index. I can't remember the exact number, but it was a
14:22:35 very large number of studies.
14:22:37 Q. And when you're discussing brain imaging studies, how
14:22:40 recently have these brain imaging studies been used by
14:22:45 neuroscientists to assess where in the brain pain is mediated?
14:22:52 A. Yeah. So these studies that I've mentioned -- functional
14:22:55 MRIs, PET scans -- they have not been around for a very long.
14:22:59 Really in the past couple of decades is when most of those
14:23:02 tests have been done. I think when the Apkarian article was
14:23:05 published in 2005 or sometime are then, they really were
14:23:08 looking at studies within the previous 15 years or so.
14:23:10 Q. So this article really looks at the latest medical data
14:23:14 that's available on what part of the brain is necessary to feel
14:23:18 pain?
14:23:18 A. Yeah. These kinds of studies just weren't available until
14:23:22 modern times.
14:23:22 Q. In addition to Apkarian article, is there any other
14:23:26 article in particular that you're relying on for your opinion
14:23:29 that the cortex needs to be developed for a fetus to feel pain?
14:23:32 A. Sure. There are at least two review articles that are

14:23:35 cited in my opinion, one from the Journal of the American
14:23:39 Medical Association and one from the Royal College of Ob-Gyn.
14:23:43 And both of these were articles that looked at the entire
14:23:51 knowledge base that we had and tried to window it down to
14:23:54 information that was useful and relevant and come up with
14:23:58 conclusions about when pain could possibly occur in utero and
14:24:03 what the basis for those conclusions were.
14:24:05 Q. So you mentioned a review article by the Royal College,
14:24:11 correct?
14:24:11 A. Yes.
14:24:11 Q. Can you just explain to the Court, what is the Royal
14:24:14 College of Obstetricians and Gynaecologists?
14:24:16 A. Yes. So most countries have professional organizations at
14:24:21 the national level, and this is the professional organization
14:24:22 of ob-gyns in Great Britain. And they do any number of things,
14:24:28 as professional organizations do. But one of the things they
14:24:31 do is they address issues that are relevant to public
14:24:33 discourse. And this was a working party that got together to
14:24:37 address the issue of fetal pain.
14:24:39 Q. And are you aware of what kinds of physicians and
14:24:43 scientists were part of the -- the working party that issued
14:24:47 the report on fetal pain by RCOG?
14:24:49 A. So, like many of these working groups, both in this
14:24:53 country and in Great Britain, this was a multidisciplinary
14:24:57 group of people that included obstetricians, pediatricians,

14:25:01 neurobiologists, nurses, midwives, and even people from the lay
14:25:06 public who work with the Royal College.
14:25:08 Q. And what was the conclusion of the Royal College on
14:25:11 whether a fetus can feel pain in utero?
14:25:14 A. There conclusion was, just as I've stated, that until the
14:25:18 cortex is connected to the rest of the nervous system, at about
14:25:21 24 weeks, that pain is not possible. But that, actually, even
14:25:25 after 24 weeks, pain is unlikely because of various other
14:25:28 factors going on in the fetal environment.
14:25:30 Q. So I actually want to move to that part of your opinion,
14:25:33 because your opinion is actually that a fetus can never feel
14:25:36 pain in utero, correct?
14:25:38 A. Correct.
14:25:38 Q. What's the basis for that opinion?
14:25:40 A. So the basis of that opinion, again, is my clinical
14:25:43 experience of dealing with fetuses at all stages, both in the
14:25:46 second trimester and the third trimester and labor, and on
14:25:51 reading the literature around fetal pain and fetal awareness.
14:25:56 There are several articles that I've cited in my opinion that
14:25:59 deal with this very issue.
14:26:02 Q. You mentioned that there are aspects of the uterine
14:26:05 environment that are relevant to your opinion on this, correct?
14:26:08 A. Yes.
14:26:08 Q. Can you please explain to the Court what particular
14:26:11 aspects of the uterine environment are you talking about.

14:26:14 A. So some of these have already been mentioned in court. So
14:26:18 there are, sort of, the physical characteristics of the uterine
14:26:22 environment. The fetus is in this warm bath of saltwater, the
14:26:26 amniotic fluid. It's in sort of an enclosed quiet, protected
14:26:31 space. It's -- any sound that gets in there is going to be
14:26:33 very muffled. Hardly any light gets through the abdominal wall
14:26:39 and into the uterus.
14:26:39 The fetus is also being bathed in various hormones
14:26:45 and neurotransmitters in the fetal serum that have soporific
14:26:50 effects or we'll call it sleep-inducing effects. And some of
14:26:54 those have been mentioned -- adenosine and the progesterone
14:26:56 derivatives prostaglandin D, and things like that.
14:27:00 And then we've also talked about the low-oxygen
14:27:02 tension that the fetus is living in, which despite fetal
14:27:06 hemoglobin, is not nearly the amount of oxygen that you or I
14:27:11 would be required to be -- to be awake.
14:27:13 Q. So you're saying that the level of oxygen available to the
14:27:17 fetus inside the uterus is much lower than the level we need to
14:27:20 be awake?
14:27:22 MS. ARDOLINO: Objection, leading.
14:27:23 THE COURT: Sustained.
14:27:24 Q. (BY MS. RIKELMAN) Can you describe further, Dr. Ralston,
14:27:27 how your understanding of the level of oxygen available to the
14:27:31 fetus inside the uterus informs your opinion.
14:27:35 A. Sure. There's two ways that we measure oxygen. One is

14:27:37 just measuring the amount of oxygen dissolved in the blood,
14:27:42 which is about a third of what it is neonates and children and
14:27:45 adults. But also the amount of oxygen that's attached to the
14:27:48 hemoglobin that's actually carrying the oxygen in the blood is
14:27:52 about 60 percent of what you or I would have in our hemoglobin.
14:27:56 Q. Is your clinical experience as a maternal fetal medicine
14:28:01 physician one of the bases for your opinion that a fetus is
14:28:04 never awake inside the uterus?
14:28:06 A. Yes.
14:28:06 Q. And what aspects of your medical practice inform that
14:28:11 opinion?
14:28:11 A. Well, I'm looking at fetuses every day with ultrasound, so
14:28:17 that is one of the reasons that I think that they're not awake.
14:28:21 I'm not seeing behaviors that look like awake behaviors. I
14:28:25 also am seeing behavior of the fetal heart rate on monitors
14:28:29 that we have long coordinated with other behaviors in the fetus
14:28:33 that are various sleep cycles that the fetus is in. And they
14:28:38 tend to be quiet sleep and active sleep and not really awake
14:28:41 cycles.
14:28:42 And then, finally I also deal with fetuses in labor.
14:28:45 And so I see what happens to fetuses when we touch them in
14:28:49 labor, when we pull on them, we put vacuums or forceps or put
14:28:53 scalp electrodes to record the fetal heart. And I see how the
14:28:57 fetuses react, and they don't wake up.
14:28:59 Q. Are there any particular peer-reviewed studies that you're

14:29:04 relying on, in addition to your own clinical experience, for
14:29:07 your opinion that the fetus is never awake inside the uterus?
14:29:10 A. Sure. One of the classic studies was a study by Rigatto
14:29:14 who in the -- I think the mid '80s did surgery on pregnant
14:29:19 sheep and made a window in the uterus of the pregnant sheep and
14:29:26 put a Plexiglass plate in the uterus and then closed it up so
14:29:30 they could look in the uterus while the sheep was still
14:29:32 pregnant and watch the -- the fetal lambs while they were
14:29:36 inside the uterus growing.
14:29:38 And what they did to these lambs is they put
14:29:41 catheters in their arteries, and they put EEG probes on their
14:29:44 head and recorded blood pressure and pulse and EEG waves on the
14:29:49 fetal lambs while observing them. And they had about 10 of
14:29:53 these lambs that they observed over time and with thousands of
14:29:57 hours of observation of these lambs.
14:29:59 And they correlated what they were seeing to what was
14:30:02 being recorded on the EEG monitors. And what they found is
14:30:06 what was looking on the EEG as sleep cycles in two different
14:30:10 kinds of sleep cycles was correlated to nothing that looked
14:30:13 like awake behavior in the lambs. And so that was some of the
14:30:17 earlier clues were people were directly looking.
14:30:20 And then later studies in humans using ultrasound and
14:30:24 then other imaging technologies, looking at even fetal EEGs
14:30:29 inside really just sustained that understanding of what the
14:30:34 behavior states of fetuses are -- human fetuses are in in

14:30:38 utero, which essentially are that they are asleep. They are in
14:30:41 two major sleep states, quiet sleep and awake sleep -- I'm
14:30:44 sorry quiet sleep and an active sleep. But they are asleep.
14:30:48 Q. Dr. Ralston, do you think it's medically appropriate to
14:30:51 predict that a fetus can feel pain based on how a baby behaves
14:30:55 after birth of equal gestational age?
14:30:58 A. I do not.
14:30:58 Q. Why not?
14:30:59 A. Because they are very different organisms. The
14:31:03 environment that a neonate is in is not the same environment
14:31:06 that the fetus is. The neonate is outside, exposed to the air,
14:31:10 exposed to light, exposed to sound, exposed to poking and
14:31:13 prodding from needles, IVs, et cetera. And it is going to be
14:31:18 in a very different state than a fetus that is inside the
14:31:21 uterus subjected to all of the environmental factors that we've
14:31:27 discussed.
14:31:28 Q. Do you think it's medically appropriate to equate hormonal
14:31:33 responses to pain?
14:31:33 A. I do not.
14:31:34 Q. Why not?
14:31:34 A. Because hormonal responses are usually reflexive responses
14:31:39 that are going through the lower parts of the brain, the
14:31:42 midbrain, and not dealing with the upper brain, the cortex, and
14:31:47 perception of pain. So you can have these hormonal responses
14:31:51 without any recognition that something is going on in the

14:31:54 brain.
14:31:54 Q. Do you think it's medically appropriate to equate reflex
14:31:57 responses with pain?
14:31:58 A. No.
14:31:59 Q. Why not?
14:32:00 A. For the very same reason, but even more so, because
14:32:03 reflexes are usually just going through the spinal cord. So an
14:32:07 impulse comes into the spine and goes back out of the spine and
14:32:11 never reaches the brain at all.
14:32:17 Q. You mentioned RCOG, the Royal College, earlier in your
14:32:21 testimony. Are you aware of any other major medical
14:32:23 organizations that have looked at the issue of whether a fetus
14:32:26 can feel pain?
14:32:27 A. Yes.
14:32:27 Q. Which other organizations?
14:32:28 A. So the American Medical Association in publishing an
14:32:32 interview in JAMA, the American College of Ob-Gyn. The
14:32:37 Australian Medical Research College has also looked at this
14:32:40 issue as well.
14:32:41 Q. And what do those three major medical organizations
14:32:44 conclude about whether a fetus can feel pain in the uterus?
14:32:49 A. They concluded the same thing, that the fetus is not
14:32:52 capable of feeling pain.
14:32:54 Q. Dr. Ralston, are you aware of any major medical or
14:32:57 scientific organization that has concluded that a fetus can

feel pain before 24 weeks LMP?
A. I am not.
Q. How would you describe Dr. Malloy's opinions, that a fetus can feel pain at 22 weeks LMP or possibly even much earlier?
A. I think her opinion is an outlier in the medical community.
MS. RIKELMAN: Pass the witness.

CROSS-EXAMINATION

BY MS. ARDOLINO:

Q. Good afternoon, Dr. Ralston.
Have you heard of the textbook *Williams Obstetrics*?
A. I have.
Q. Okay. Is it considered a reliable source of information in the field of obstetrics?
A. There are many things in there that are reliable, yes.
Q. And is it regularly relied upon by doctors in the field of obstetrics?
A. It's often used as a reference textbook, yes.
Q. Okay. Are you familiar with the book *Critical Care Obstetrics* by Clark and Cotton?
A. I am not familiar with that book.
Q. Are you familiar with the book *Maternal Fetal Medicine* by Creasy and Resnik?
A. I am.
Q. Okay. Is that considered by maternal fetal medicine

14:34:13 specialists as a reliable source of information in that field?
14:34:16 A. Yes.
14:34:17 Q. Okay. How about Gabbe's *Obstetrics: Normal and Problem*
14:34:24 *Pregnancies*? Is that text also considered by obstetricians to
14:34:27 be a reliable source of information in the field?
14:34:30 A. It's a commonly used textbook, yes.
14:34:32 Q. Okay. In forming your opinions about fetal pain in this
14:34:39 case, you relied upon a publication by the International
14:34:43 Association of Pain, correct?
14:34:45 A. Yes.
14:34:45 Q. Okay. And the title of that publication is
14:34:53 "Classification of Chronic Pain"; is that right?
14:34:55 A. I believe you.
14:34:56 Q. Okay. Would you like to look at your report? Would that
14:34:59 refresh your recollection?
14:35:00 A. I don't think I need to.
14:35:02 Q. So then yes?
14:35:03 A. Yes.
14:35:03 Q. You would agree that was the title of the article,
14:35:06 "Classification of Chronic Pain"?
14:35:07 A. Yes.
14:35:08 Q. All right. The definition of pain that you -- that you
14:35:15 use in providing your opinions, that comports with the
14:35:18 definition provided in that "Classification of Chronic Pain,"
14:35:23 correct?

14:35:23 A. Yes.
14:35:24 Q. Okay. The pain that a human being might feel on account
14:35:30 of being dismembered, would that be considered chronic pain?
14:35:34 A. I don't think that the definition of pain that I was using
14:35:38 was of chronic pain. So, no, I would not call that chronic
14:35:42 pain. That would be acute pain.
14:35:44 Q. Okay. You also relied -- you mentioned the meta-analysis
14:35:57 by Apkarian, correct?
14:35:59 A. That is correct.
14:36:00 Q. Okay. Can you explain what a meta-analysis is.
14:36:04 A. Sure. A meta-analysis is a way of looking at data that is
14:36:12 in the literature that is in small pieces in various places and
14:36:16 combining it so that you have larger data that you can look at
14:36:20 and make more robust conclusions from.
14:36:23 Q. Okay. So that Apkarian article, that didn't contain any
14:36:27 original research, correct?
14:36:29 A. I think it was original research. They were doing a
14:36:32 meta-analysis, which is a form of research.
14:36:35 Q. Okay. It didn't contain any -- the results of any
14:36:39 experiment or study that the authors themselves performed,
14:36:42 correct?
14:36:43 A. No. They were reporting on the results of other people's
14:36:46 experiments.
14:36:46 Q. Okay. None of the studies that were cited to in this
14:36:53 meta-analysis -- or, actually, the studies that were cited to

14:36:57 in this meta-analysis, they had to do with pain, correct?
14:37:03 A. Yes.
14:37:03 Q. And none of the studies that were cited in this
14:37:06 meta-analysis included any studies of pain in fetuses; isn't
14:37:13 that correct?
14:37:13 A. That is correct.
14:37:14 Q. Okay. And none of the studies cited in this meta-analysis
14:37:18 included studies of pain in neonates, correct?
14:37:22 A. That is correct.
14:37:23 Q. And none of the studies cited in this meta-analysis
14:37:27 included studies on pain in infants, correct?
14:37:31 A. These were studies on adults.
14:37:33 Q. Okay. You've testified earlier that it is your opinion
14:37:46 that fetuses are not ever awake in utero. Is that accurate?
14:37:51 A. Yes.
14:37:52 Q. Okay. This opinion that fetuses sleep all of the time,
14:37:57 that's not a consensus opinion in field of obstetric, is it?
14:38:03 A. I don't know that it's a consensus.
14:38:06 Q. Okay. In fact, the consensus in the medical community is
14:38:13 that fetuses cycle between sleep states and wake states while
14:38:17 in utero; isn't that correct?
14:38:18 A. I think we refer to sleep states and wake states based on
14:38:23 the amount of activity that a woman is sensing and activity
14:38:26 that we are seeing on an ultrasound or on a fetal heart rate
14:38:28 monitor. I think that those are misnomers, and I think that

14:38:32 many of the researchers don't refer to sleep-wake cycles. They
14:38:35 refer to just behavioral states, whether it's F1, F2, F3, F4,
14:38:40 and don't ascribe to them "sleep" or "awake" for that very
14:38:43 reason, that it's not clear that the fetus is awake. They're
14:38:47 just behaving in different ways, some of which are perceived to
14:38:51 be awake states by the pregnant woman because she's feeling the
14:38:55 baby kick. But that doesn't mean that the fetus is awake; it
14:38:59 means that the fetus is moving. Just like a baby might move
14:39:01 around while it's sleeping, it doesn't mean that it's awake;
14:39:03 it's just moving.
14:39:04 Q. And you mentioned -- we talked a moment ago about *Williams*
14:39:10 *Obstetrics*, correct?
14:39:11 A. Correct.
14:39:11 Q. Is that this book?
14:39:17 A. That looks like it.
14:39:19 Q. Okay. I actually have the most recent edition in print.
14:39:25 Unfortunately, I don't have the full copy of -- of the most
14:39:30 recent edition. And I've tabbed a page. This contains -- can
14:39:57 you please turn to that page?
14:40:04 A. (Complies)
14:40:04 Q. This appears to be chapter 17 of *Williams Obstetrics*; is
14:40:12 that correct.
14:40:14 A. That is correct.
14:40:14 Q. And that chapter is called "Fetal Assessment," correct?
14:40:18 A. Correct.

14:40:18 Q. Okay. There is a portion of that chapter called "fetal
14:40:25 movements," correct?
14:40:26 A. Correct.
14:40:26 Q. Can you please read, starting with the last sentence of
14:40:32 that first paragraph where it starts "Nijhuis" into the record?
14:40:38 A. Sure. Do you want to tell me where to stop, too.
14:40:45 Q. You can please stop at -- actually, do you see that there
14:40:47 are four bullet points?
14:40:48 A. Sure.
14:40:49 Q. Okay. Can you please stop at the last bullet point.
14:40:53 A. Sure. "Nijhuis and colleagues (1982) described four fetal
14:40:59 behavioral states.
14:41:06 "State 1F is a quiescent state -- quiet sleep -- with
14:41:06 a narrow oscillatory bandwidth of the fetal heart rate.
14:41:07 "State 2F includes frequent gross body movements,
14:41:13 continuous eye movements, and a wider oscillation of the fetal
14:41:13 heart rate. This state is analogous to rapid eye movement
14:41:13 (REM) or active sleep in the neonate.
14:41:13 "State 3F includes continuous eye movements in the
14:41:19 absence of body movements and no heart rate accelerations. The
14:41:19 existence of this state is disputed." And then it cites
14:41:19 Pillai, 1990.
14:41:33 "State 4F is one of vigorous body movement with
14:41:43 continuous eye movements and heart rate accelerations. This
14:41:43 state corresponds to the awake state in newborns."

14:41:43 Q. Thank you. Do you know what a hypothesis is?
14:41:58 A. Yes.
14:41:59 Q. Okay. I typed that word into Google this morning, and it gave me the definition: A supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation.
14:42:05 14:42:09 14:42:13
14:42:14 Does that comport with your understanding of what a hypothesis is?
14:42:17
14:42:19 A. Yes.
14:42:19 Q. All right. In support of your opinion that fetuses are always asleep in utero, you relied on a 2005 article by Mellor and other authors, correct?
14:42:24 14:42:29
14:42:32 A. Yes.
14:42:32 Q. Okay. Does this appear to be that article?
14:43:05 A. It is.
14:43:09 Q. And you relied on this article in forming your opinions in this case, correct?
14:43:13
14:43:15 A. It was one of the articles, yes.
14:43:16 Q. Okay. Can you please read the highlighted portion of that article?
14:43:20
14:43:21 A. Sure. It says, "The current review critically evaluates the hypothesis that, unlike the newborn, the fetus is actively maintained asleep (and unconscious) throughout gestation and cannot be woken up nociceptive stimuli."
14:43:25 14:43:31 14:43:36
14:43:44 Q. Okay. So this article also does not present the results

14:43:51 of any original experimentation or study that was conducted by
14:43:54 the authors; isn't that correct?
14:43:56 A. No. It is a review article, and it's presenting data from
14:44:00 other experiments.
14:44:01 Q. Okay. And in this article the authors looked at
14:44:06 observations of fetal sheep in utero, correct?
14:44:09 A. I believe they make reference to that article.
14:44:11 Q. And the authors of this article, they didn't conduct
14:44:14 that -- those in utero sheep observations themselves, correct?
14:44:19 A. Correct.
14:44:19 Q. They relied on other published literature from other
14:44:23 authors, correct?
14:44:24 A. Yes.
14:44:25 Q. Okay. And they analogized from observations that were
14:44:37 reported of fetal sheep in utero and presumed that, if the
14:44:44 sheep were asleep for the entirety of their uterine experience,
14:44:49 then the same might be true for humans, correct?
14:44:53 A. Correct.
14:44:54 Q. Okay. And then the authors proceeded to discuss several
14:45:01 possible explanations for why a human fetus might remain in a
14:45:08 sleep state in utero; is that correct?
14:45:10 A. Yes. Correct.
14:45:11 Q. Okay. And these are the explanations, or among the
14:45:15 explanations, that you offered to this Court in support of your
14:45:18 opinion, correct?

14:45:19 A. Correct.
14:45:20 Q. Okay. But the authors of the Mellor article offered these
14:45:26 explanations as hypotheses, correct?
14:45:30 A. Correct.
14:45:30 Q. They did not test these hypotheses, correct?
14:45:34 A. I don't remember that from the article.
14:45:36 Q. Okay. And you did not cite any study in your review or
14:45:44 that you relied on that actually tests any of these hypothesis,
14:45:49 did you?
14:45:50 A. So the hypothesis that the fetus is asleep has been
14:45:54 tested. What is causing that sleep-like state has been
14:45:59 hypothesized, as you state, in the article.
14:46:01 MS. ARDOLINO: I'm going to move to strike the answer
14:46:03 as nonresponsive.
14:46:05 Q. The question that I asked is: Did you cite to any studies
14:46:12 that have tested these hypothesis -- these hypotheses in
14:46:17 forming your opinions in this case.
14:46:19 A. So there are data cited in other articles looking at
14:46:26 levels of hormones, levels of adenosine in the fetal serum
14:46:32 compared to maternal serum. I don't know that Mellor article
14:46:37 itself cites those articles, but that is data that exits.
14:46:39 Q. But did you cite any of those articles?
14:46:41 A. I don't know if they were cited by one of the review
14:46:45 articles that I cited. I think it's likely since that's where
14:46:48 I read most of those articles, but I can't cite the specific

14:46:51 article that did the adenosine and the pregnenolone studies.
14:46:56 Q. You also testified earlier that you were familiar with
14:47:34 *Gabbe Obstetrics*, correct?
14:47:36 A. Yes.
14:47:37 Q. And that was a text that is relied upon in the field of
14:47:41 obstetrics, correct?
14:47:42 A. Yes.
14:47:43 Q. All right. Dr. Ralston, can you please read the two
14:48:02 sentences starting here with "four fetal states."
14:48:05 A. "Four fetal states have been identified. The near-term
14:48:09 fetus spends approximately 25 percent of its time in a quiet
14:48:12 sleep state (state 1F) and 60 to 70 percent in an active sleep
14:48:17 state (2F)."
14:48:40 Q. You also mentioned a study that you relied upon that was a
14:49:11 working group paper by the Royal College of Obstetricians and
14:49:15 Gynaecologists; is that correct?
14:49:17 A. Yes.
14:49:17 Q. Okay. Does there appear to be that study?
14:49:33 A. It does.
14:49:34 Q. Okay. You're aware that the Royal College of
14:49:57 Obstetricians and Gynaecologists, prior to publishing this
14:49:59 study in 2010, had previously published a study that looked at
14:50:04 the issue of fetal pain in 1997; is that right?
14:50:08 A. That is correct.
14:50:09 Q. Okay. You're aware that, in the working group study that

14:50:24 they published in 1997, the authors of the study concluded that
14:50:32 the necessary -- that fetuses -- human fetuses did not have the
14:50:37 necessary structural integration of the nervous system to
14:50:41 experience pain awareness before 26 weeks of gestation. Were
14:50:46 you aware of that finding of the 1997 study?
14:50:50 A. I believe that I learned that from you during my
14:50:53 deposition.
14:50:59 Q. And in the -- are you also aware that RCOG undertook a
14:51:04 review of the 1997 study amidst concerns that that earlier 1997
14:51:14 study failed to give full consideration to all of the relevant
14:51:20 research on fetal pain? Are you aware of that?
14:51:23 A. I think this is a review that happened eight years after
14:51:28 the original review, and there was more research that they
14:51:30 wanted to include in their opinions. And so they wanted to
14:51:32 update their opinion.
14:51:33 Q. Okay. Can you please read the highlighted portion of --
14:51:47 of this RCOG paper that you relied on.
14:51:51 A. Sure. It says, "A minority report, however, recorded in
14:51:54 the minutes of the committee on 29 October 2007 said, 'We are
14:51:59 deeply concerned that the RCOG failed to give full information
14:52:02 to the House of Commons Select Committee ... since 1997 the
14:52:06 RCOG has consistently denied that fetuses can feel pain earlier
14:52:11 than 26 weeks without acknowledging that, amongst experts in
14:52:16 this field, there is no consensus. Professor Anand is a world
14:52:20 authority in the management of neonatal pain and has put

14:52:24 forward cogent argument suggesting that the RCOG position is
14:52:27 based on a number of false or uncertain presuppositions.'"
14:52:30 Q. So in the 2010 review that you relied on in forming
14:52:34 your -- the basis or the partial basis of your opinions, you
14:52:40 were aware that the Royal College -- Royal College of
14:52:46 Obstetricians and Gynaecologists revised its conclusion about
14:52:50 when fetal pain could possibly exist from 26 weeks of gestation
14:52:56 to 24 weeks of gestation, correct?
14:53:00 A. Correct.
14:53:26 Q. And it's your understanding that the Royal College of
14:53:28 Obstetricians and Gynaecologists, after -- working group, after
14:53:33 reviewing the information, including new information in the
14:53:39 medical field, revised that opinion based on -- excuse me.
14:53:45 Strike that question. Let me try again.
14:53:47 You're aware that RCOG revised its opinion based on
14:53:53 new information that had become available within the field in
14:53:57 the realm of fetal pain, correct?
14:53:59 A. I don't know why they revised their opinion.
14:54:03 Q. In your -- in your clinical practice you perform
14:54:36 procedures on fetuses that have the potential or that -- that
14:54:41 involve noxious stimuli, correct?
14:54:46 A. Yes.
14:54:46 Q. What is a noxious stimulus?
14:54:50 A. A noxious stimulus is one that is being picked up by
14:54:58 neurofibers that are pain fibers essentially.

14:55:01 Q. Okay. Would it be fair to say that in a -- in a being
14:55:04 that was capable of feeling pain, a noxious stimulus would be a
14:55:09 stimulus that would cause pain?
14:55:11 A. Can you repeat that question? I'm sorry.
14:55:13 Q. Yeah. It was kind of a confusing question.
14:55:15 So is it fair to say that a noxious stimulus is a
14:55:20 painful stimulus or a stimulus that has the potential to cause
14:55:24 pain?
14:55:24 A. I think that's a subset of noxious stimuli. I think there
14:55:27 could be other noxious stimuli, like a bad odor could be a
14:55:31 noxious stimuli but it's not a painful stimulus. A bright
14:55:35 light could be a noxious stimulus. A loud noise could be a
14:55:42 noxious stimulus. That isn't pain, per se.
14:55:44 Q. When -- you perform procedures on fetuses that have the
14:55:53 potential to cause -- that involve noxious stimulus in the
14:55:59 sense of a painful stimulus, correct?
14:56:02 A. In the sense that they are procedures that will lead to
14:56:07 firing of pain neurons in the periphery. But I wouldn't
14:56:12 necessarily call them painful stimuli because I don't think
14:56:15 they are being perceived or interpreted as pain by the fetus.
14:56:18 Q. But as distinct from a noxious stimulus that might be a
14:56:22 bad odor, for example?
14:56:23 A. Yes.
14:56:24 Q. Okay. These procedures, include placing shunts, correct?
14:56:30 A. Yes.

14:56:31 Q. What is involved in placing a shunt?
14:56:34 A. So a shunt is just -- is essentially a straw that goes
14:56:39 from inside the fetus to the amniotic fluid in order to drain
14:56:44 liquid that is inside the fetus in a cavity where it shouldn't
14:56:47 be. And what is involved in placing a shunt is doing an
14:56:52 ultrasound and placing a large needle through the abdominal
14:56:55 wall of the woman into the uterus and, through that needle, a
14:56:59 straw is threaded and pushed into the fetus and then allowed to
14:57:02 exit into the amniotic fluid.
14:57:04 Q. And you perform shunt placement on fetuses up to 32 weeks
14:57:11 of gestation, correct?
14:57:12 A. I think that's the latest I've done one.
14:57:15 Q. Okay. And when you place those shunts, you rarely, if
14:57:19 ever, use any type of anesthesia or pain management, correct?
14:57:25 A. Not -- I do for the woman, but not for the fetus.
14:57:29 Q. Understood. For the fetus?
14:57:30 A. For the fetus, no.
14:57:32 Q. Okay. And you do that because, in your opinion, the
14:57:38 32-week old fetus can't feel pain, correct?
14:57:42 A. Well, there's many reasons why I don't. One is that it
14:57:47 involves another procedure. So it's another needle going
14:57:49 through the woman and another needle going into the fetus to
14:57:52 give that medication. Two, I don't usually find it necessary
14:57:55 because it's not going to aid in the procedure. And, three, I
14:58:00 do not think the fetus is feeling pain. So for pain relief for

14:58:03 the fetus, I don't think it's necessary.
14:58:05 Q. Okay. You also remove fluids from fetuses, correct while,
14:58:10 they're in utero?
14:58:12 A. Yes.
14:58:12 Q. Okay. And you remove fluids from fetuses up to about
14:58:18 35-weeks gestational age, or LMP, correct?
14:58:22 A. Actually, even later than that.
14:58:24 Q. How late?
14:58:26 A. Forty-two weeks.
14:58:27 Q. Forty-two weeks. Is that full-term, essentially?
14:58:31 A. That's full-term.
14:58:31 Q. Okay. So you remove fluids from fetuses up to fetuses
14:58:37 that are full-term, correct?
14:58:39 A. Yes.
14:58:39 Q. And the -- that procedure of removing fluids, that
14:58:46 involves a noxious stimulus, correct?
14:58:48 A. It's a needle, yes.
14:58:50 Q. And you do not use any anaesthesia or pain management
14:58:57 specifically for the fetus during those procedures, correct?
14:59:00 A. Again, I'm not sure I could safely do that, and so I don't
14:59:04 do that.
14:59:04 Q. Okay. You also perform blood transfusion procedures,
14:59:18 correct?
14:59:18 A. Yes.
14:59:19 Q. Okay. What is involved in a blood transfusion procedure?

14:59:22 A. It's essentially the same procedure that we've talked
14:59:27 about. But instead of the needle going into the fetus, it goes
14:59:30 into the umbilical cord. And blood is pumped through the
14:59:34 umbilical cord into the fetus through the needle.
14:59:37 Q. Okay. And does that procedure have the potential -- or
14:59:41 does that procedure involve a noxious stimulus for the fetus?
14:59:46 A. So certainly the fetus can respond to that procedure when
14:59:51 the blood volume is increased as though something bad is
14:59:54 happening to it. It's not going through pain fibers because
14:59:58 there's no pain fibers in the umbilical cord.
15:00:01 Q. So it potentially involves a noxious stimulus to the
15:00:05 fetus, correct?
15:00:06 A. Potentially.
15:00:07 Q. And you perform blood transfusions on fetuses up to about
15:00:11 35-weeks gestation, correct?
15:00:13 A. Yes.
15:00:13 Q. And, again, you do not use any type of anaesthesia or an
15:00:22 analgesia for the fetus during those procedures, or you rarely
15:00:26 do?
15:00:26 A. Rarely. In order to make the procedure go more safely for
15:00:30 the fetus, if the fetus is moving too much to do the procedure
15:00:33 safely.
15:00:34 Q. But not for the purpose of pain management, correct?
15:00:36 A. It's not for pain management.
15:00:38 Q. You would agree that human fetuses, when they're born, do

15:01:21 awaken from sleep, correct?
15:01:23 A. Yes.
15:01:24 Q. Okay. And this can often happen quite quickly after
15:01:28 birth, correct?
15:01:29 A. Yes.
15:01:29 Q. One of the things that could contribute to fetal awakening
15:01:36 is detachment from the placenta, correct?
15:01:39 A. Yes.
15:01:44 Q. And that would occur through interruption or separation of
15:01:48 the umbilical cord, correct?
15:01:52 A. That, in combination with the fetus breathing air and
15:01:55 starting to respirate outside of the uterus. I don't think
15:01:59 just cutting the cord does it.
15:02:02 Q. So just cutting the cord doesn't -- doesn't detach the
15:02:07 fetus from the placenta?
15:02:09 A. It detaches the fetus from the placenta, but it doesn't
15:02:12 wake the fetus up or the baby up at that point.
15:02:15 MS. ARDOLINO: Okay. I'm sorry. Move to strike
15:02:16 that -- that answer as nonresponsive.
15:02:19 Q. My question was: Does interrupting or separating the
15:02:24 umbilical cord detach the fetus from the placenta?
15:02:29 MS. RIKELMAN: Objection, Your Honor. This line of
15:02:31 questioning does not seem to be relevant.
15:02:36 MS. ARDOLINO: We're --
15:02:37 THE COURT: Move along. Just move along.

15:02:39 A. Yes. It separates it from the placenta.
15:02:43 Q. Another thing that could wake a baby up is temperature
15:02:48 change, correct?
15:02:48 A. Correct.
15:02:50 MS. RIKELMAN: Objection, Your Honor. I think this
15:02:51 is going beyond the scope of the direct.
15:02:56 MS. ARDOLINO: She has him on cross-examination. I'm
15:02:56 going to let her explore it.
15:03:00 Q. I'm sorry. Did you answer the question?
15:03:04 A. I think I did.
15:03:05 Q. Okay. So -- and your answer was, yes, a temperature
15:03:09 change could wake the baby up?
15:03:11 A. That's not the question you asked me.
15:03:13 Q. I'm sorry. I believe the question I asked you was that
15:03:16 another thing that could wake the baby up is -- is a
15:03:19 temperature change, correct?
15:03:20 A. Yes.
15:03:20 Q. Okay. That's exposure to a colder temperature than a
15:03:24 temperature in the uterus, correct?
15:03:27 A. Yes.
15:03:28 Q. And that could occur upon exposure to room temperature,
15:03:31 for example?
15:03:32 A. Yes.
15:03:33 Q. Another thing that could contribute to awakening a fetus
15:03:37 is physical manipulation, correct?

15:03:40 A. Yes.
15:03:41 Q. Okay.
15:03:42 A. I'm sorry. Could you repeat the question.
15:03:44 Q. Oh, sure. Another thing that could contribute to
15:03:47 awakening is physical manipulation of the baby, correct?
15:03:52 A. Yes.
15:03:54 Q. And another way of saying "physical manipulation" could be
15:04:00 tactile stimulation that could wake the baby up, correct?
15:04:04 A. Yes.
15:04:04 Q. Okay. And tactile stimulation, that would refer to things
15:04:08 such as touching the fetus, correct?
15:04:10 A. I thought we were talking about babies.
15:04:12 Q. Oh. I'm sorry. Sure. Touching the baby or -- well,
15:04:16 tactile -- tactile stimulation, that refers to touching,
15:04:21 correct?
15:04:21 A. Yes.
15:04:22 Q. But -- so that could be experience -- experiencing
15:04:26 something like pressure, correct?
15:04:30 A. I'm not sure that pressure alone would wake a baby up.
15:04:33 Q. How about rubbing? Would that be a tactile stimulus?
15:04:37 A. Sure.
15:04:38 Q. Okay. How about having an instrument grab a part of your
15:04:43 body and rip it off? Would that be considered a tactile
15:04:46 stimulus?
15:04:47 A. I'm not sure that that's something we would do to a baby.

15:04:50 Q. But would it be considered a tactile stimulus?

15:04:53 MS. RIKELMAN: Your Honor, if I may object again,
15:04:56 Dr. Ralston is here to offer opinions about fetal pain. These
15:04:59 are all questions about babies. I don't see the relevance.

15:05:02 THE COURT: Ms. Ardolino, what's the relevance of
15:05:03 this line of questioning?

15:05:04 MS. ARDOLINO: The relevance is that Dr. Ralston has
15:05:07 said -- has set forth in his opinion different scenarios where
15:05:13 a fetus would awaken from a state of sleep upon birth or
15:05:20 different scenarios that could awaken a -- a human from this
15:05:29 in-utero sleep. And so I am cross-examining him on these
15:05:35 conditions.

15:05:35 THE COURT: His opinion for purpose of this Court is
15:05:38 what he has expressed from the witness stand. So limit your
15:05:43 questions to what he has said here in court, not what he said
15:05:46 out of court.

15:05:49 MS. RIKELMAN: Your Honor, I apologize for
15:05:51 interrupting. We just wanted to check on the time count right
15:05:54 now to make sure that we'll still have equal time for the rest
15:05:58 of the rebuttal case.

15:05:58 THE COURT: Well, I'm not going to deal with equal
15:06:00 time. At 3:30 we're going to have argument no matter where we
15:06:02 are.

15:06:03 MS. ARDOLINO: I will move along very quickly. I
15:06:04 only have a few more questions.

15:06:04 THE COURT: But I do think, Ms. Ardolino, you could
15:06:07 move along a little more quickly.
15:06:10 Q. (BY MS. ARDOLINO) Dr. Ralston, have you worked for Planned
15:06:11 Parenthood before?
15:06:12 A. I have.
15:06:13 Q. Okay. You were, in fact, a Planned Parenthood board
15:06:17 member for a number of years, correct?
15:06:19 A. I was.
15:06:19 Q. Okay. You do not view a fetus as having personhood,
15:06:25 correct?
15:06:26 A. No.
15:06:26 Q. Okay. And you do not believe that the government has a
15:06:29 legitimate interest in protecting the dignity of the life of
15:06:33 the unborn, correct?
15:06:34 A. I don't think that's one of the roles of our government.
15:06:37 Q. Okay. You also don't believe that the government has a
15:06:40 legitimate interest in protecting the life of the unborn, even
15:06:43 if the pregnancy is desired, correct?
15:06:46 A. I think that the government is designed to serve the
15:06:49 people, and the people are the legal persons. And that's
15:06:53 adults, children -- born people.
15:06:56 Q. So, in other words, you don't believe that the government
15:06:58 has a legitimate interest in protecting the life of the unborn,
15:07:02 even where a pregnancy is desired, correct?
15:07:05 A. Even.

15:07:05 Q. Okay. And that is because a fetus is not a person,
15:07:11 correct, in your view?
15:07:14 A. That is only part of why I feel that way.
15:07:18 Q. Okay.
15:07:18 A. Part of it is because the personhood or lack of personhood
15:07:21 of the fetus, but also the part of what I just said, is what I
15:07:24 think governments are for. Governments are to serve the people
15:07:28 who create the governments, and the people who create the
15:07:32 governments are you and I, adults. And we do it to serve us
15:07:35 and to serve the born persons in our society.
15:07:39 Q. Okay. Newborn babies, they don't create the government,
15:07:44 though, do they?
15:07:45 A. No but we serve as their surrogates and as their proxies.
15:07:48 THE COURT: All right. This is getting argumentative
15:07:50 now. Just cross-examine him on his opinions and what he
15:07:53 testified to.
15:07:55 Q. (BY MS. ARDOLINO) In your practice you treat pregnant
15:07:57 women, correct?
15:07:58 A. Yes.
15:07:58 Q. Okay. And sometimes you perform procedures directly on
15:08:02 fetuses, correct?
15:08:05 A. Never directly on fetuses. It's always indirectly on the
15:08:09 fetus, through the woman.
15:08:10 Q. Okay. You don't view the fetus as your patient, do you?
15:08:14 A. I am treating the physician, and I am treating the mother

15:08:19 at the same time, the pregnant woman. But I don't have that
15:08:23 doctor-patient relationship with the fetus that I have with the
15:08:26 pregnant woman.
15:08:27 Q. Okay.
15:08:45 MS. ARDOLINO: Pass the witness.
15:08:48 MS. RIKELMAN: Nothing further, Your Honor.
15:08:49 THE COURT: You may step down.
15:08:55 MR. STEPHENS: Your Honor, I don't want -- I wouldn't
15:08:57 typically interrupt their case, but we still have to resolve
15:09:00 these issues before 3:30, the exhibit question.
15:09:03 MR. LAWRENCE: We would like to get our witness on,
15:09:05 Your Honor.
15:09:05 THE COURT: We'll put the witness on. I'll worry
15:09:07 about the rest of it later.
15:09:08 MR. STEPHENS: Okay.
15:09:16 MS. KEIGHLEY: Jennifer Keighley for Plaintiffs.
15:09:18 Plaintiffs call Dr. Aaron Caughey.
15:09:20 (Witness sworn)
15:09:40 THE COURT: And tell me your name one more time.
15:09:41 MS. KEIGHLEY: Jennifer Keighley.
15:09:41 THE COURT: No. You were speaking over one another.
15:09:41 Tell me one more time.
15:09:41 MS. KEIGHLEY: Jennifer Keighley.
15:09:43 THE COURT: Thank you so much.
15:09:45 MS. KEIGHLEY: You're welcome.

MR. BIGGS: Your Honor, before we begin, we need to ensure we have at least two minutes to cross this witness.

THE COURT: I'm not going to assure you of anything. We have discussed this over and over again. You know what the schedule is. If you get cut off, you get cut off.

MR. BIGGS: Yes, sir.

AARON CAUGHEY, M.D., M.P.P., M.P.H., Ph.D., having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. KEIGHLEY:

Q. Hi, Dr. Caughey. Can you please state and spell your full name for the record.

A. Aaron Caughey. A-a-r-o-n C-a-u-g-h-e-y?

Q. Dr. Caughey, what is your occupation?

A. I'm an obstetrician-gynecologist and maternal fetal medicine subspecialist.

Q. And is it okay if I refer to maternal fetal medicine as MFM?

A. Yes, ma'am.

Q. Great. Where are you currently employed?

A. Oregon Health & Science University in Portland, Oregon.

Q. And what is your job title there?

A. Professor and chair of the Department of Obstetrics and Gynecology.

Q. And your medical degree is from Harvard, correct?

15:10:39 A. Yes, ma'am.
15:10:40 Q. And where did you do your ob-gyn residency?
15:10:45 A. Oh. At the combined program at Brigham & Women's Hospital
15:10:48 and Massachusetts General Hospital affiliated with the Harvard
15:10:50 Medical School.
15:10:52 Q. And then you performed a three-year-long MFM fellowship at
15:10:55 UCSF, correct?
15:10:57 A. Yes, ma'am.
15:10:57 Q. Have you ever been the director of maternal fetal medicine
15:11:03 fellowship program?
15:11:03 A. Yes, ma'am. I served as the director of the maternal
15:11:04 fetal medicine fellowship at the University of California,
15:11:07 San Francisco.
15:11:08 Q. And approximately how many residents and fellows have you
15:11:11 trained over the course of your career?
15:11:12 A. Oh, I'd suspect it's about 200, ma'am.
15:11:15 Q. Were you trained during your maternal fetal medicine
15:11:19 fellowship in how to perform intracardiac potassium chloride
15:11:23 injections?
15:11:24 A. Yes, ma'am, I was.
15:11:25 Q. And have you performed intracardiac potassium chloride
15:11:28 injections?
15:11:28 A. Yes, ma'am, I have.
15:11:29 Q. And is it okay if I refer to potassium chloride as KCl
15:11:35 during this deposition -- during this testimony?

15:11:36 A. Certainly.
15:11:37 Q. Can you describe your role overseeing the training of
15:11:41 ob-gyn residents and maternal fetal medicine fellows at Oregon
15:11:46 Health & Sciences University?
15:11:48 A. Certainly. As the department chair, essentially, the
15:11:52 directors of the residency program and the directors of the
15:11:56 fellowships report up to the vice chair for education and then
15:11:59 to me. As a member of the faculty, I interact directly with
15:12:03 our residents and our fellows in education, research, and, of
15:12:07 course, clinical care quite vigorously.
15:12:09 Q. Can you please turn to tab six in the plaintiffs' exhibit
15:12:14 binder.
15:12:14 A. Yes, ma'am. All right, then.
15:12:23 Q. And if you can look that over, is this your CV?
15:12:25 A. Yes, ma'am, it is.
15:12:27 Q. Is it an accurate summary of your educational and
15:12:31 professional history, your publications and other credentials?
15:12:34 A. The large majority. It's updated as of August 30th, 2017.
15:12:38 So it's two months ago. To that date, yes.
15:12:42 MS. KEIGHLEY: Your Honor, we move to admit
15:12:43 Plaintiffs' Exhibit 6 into evidence.
15:12:45 THE COURT: Plaintiff's Number 6; is that correct?
15:12:47 MR. BIGGS: No objection to Plaintiffs' 6,
15:12:49 Your Honor.
15:12:52 THE COURT: Plaintiffs' Exhibit 6 is admitted.

15:12:56 MS. KEIGHLEY: Your Honor, at this time Plaintiffs
15:12:56 tender Dr. Caughey as a ob-gyn and maternal fetal expert and,
15:12:58 in particular, an expert in the training of ob-gyns and MFMs,
15:13:03 pursuant to rule 702.
15:13:05 MR. BIGGS: No objection, Your Honor.
15:13:07 THE COURT: The witness may testify as an expert on
15:13:12 the topics indicated by counsel.
15:13:14 MS. KEIGHLEY: Thank you.
15:13:15 Q. You've reviewed trial transcript of the testimony of
15:13:18 Dr. Berry and Dr. Chireau from earlier this week, correct?
15:13:21 A. Yes, ma'am.
15:13:21 Q. Dr. Berry testified that it would be easy to train
15:13:25 abortion providers to administer KCl injections.
15:13:29 Do you agree with his opinion?
15:13:30 A. No, ma'am.
15:13:31 Q. And why not?
15:13:32 A. So, intracardiac KCl injections are a complex fine-toothed
15:13:37 procedure to do. They're a challenging procedure. And so the
15:13:42 idea that you train a generalist provider who's never done
15:13:46 subspecialty training or trained extensively in the idea of
15:13:49 manipulation of the fetus with the ultrasound and with a needle
15:13:53 is ludicrous.
15:13:56 Q. What is your personal experience with KCl injections?
15:13:59 A. Certainly. So I observed several -- probably more than
15:14:03 half a dozen as a resident and then was trained to perform

15:14:07 those procedures as a fellow and then performed them early in
15:14:10 my career.
15:14:11 Q. When attempting to achieve fetal demise, where does a
15:14:15 provider inject KCl?
15:14:17 A. We inject potassium chloride intracardiac, or into the
15:14:21 heart itself, of the fetus.
15:14:22 Q. And why is the KCl injected intracardiac?
15:14:26 A. So the purpose of potassium chloride is to be injected so
15:14:29 that you get a local concentration of potassium chloride in and
15:14:34 around the heart muscle to cause permanent depolarization of
15:14:38 the heart muscle so the heart stops. If it's not injected into
15:14:42 the heart, the chances of getting that high threshold of
15:14:45 concentration are lower.
15:14:47 Q. Is KCl ever injected into the fetal thorax?
15:14:51 A. It -- I'm sure it occasionally is. I think the target is
15:14:55 the heart, but that heart is small. It's about the -- you
15:14:59 know, it's small. It's the size of a pea at 16 weeks.
15:15:03 MR. BIGGS: I'm going to object, Your Honor. This
15:15:04 answer is nonresponsive to the question.
15:15:06 THE COURT: Overruled.
15:15:07 A. And so if you can't reach the heart, you may place the tip
15:15:10 of the needle in the thorax itself and inject there with the
15:15:14 hopes that it would -- that a significant concentration would
15:15:18 reach the fetal heart and lead to depolarization and ceasing of
15:15:22 the fetal heart activity.

15:15:23 Q. Do you consider the injection of intracardiac KCl to be a
15:15:27 specialized skill?
15:15:29 A. Yes, ma'am.
15:15:29 Q. And why?
15:15:31 A. Well, again, it's only performed by individuals that have
15:15:34 trained in the subspecialty of maternal fetal medicine after
15:15:38 extensive training. Among the -- the procedures we do on the
15:15:42 fetus, it would be one of the harder ones to do. You've got
15:15:46 to, again, place the needle through the skin of the woman, into
15:15:49 the uterus, into the cavity, into the fetus, and specifically
15:15:52 into the heart. So it's a very complex, tricky procedure to
15:15:56 do.
15:16:01 Q. Dr. Berry testified that the needle tip of a 22-gauge
15:16:04 needle within a volume of fluid is going to look like a bright
15:16:07 white light in the middle of a dark background.
15:16:10 Do you agree with that description?
15:16:12 A. Well, if you're lucky, it is. But the tricky thing is
15:16:15 that you're manipulating two-dimensional ultrasound plane,
15:16:20 right? So you're beaming the ultrasound plane into the mom's
15:16:23 abdomen and uterus. And then you've got a needle in the other
15:16:26 hand and you're triangulating between the two. So if you're
15:16:28 lucky enough to catch it in the right plane, you can see it.
15:16:31 Unfortunately, it's not uncommon that we come across
15:16:35 the shaft, the needle tip is hidden, it's up against something,
15:16:39 and we lose the tip. So there are challenges. And I'm

describing it in a thin woman. Now if we get someone who's obese, the acoustic window, the ability for the ultrasound waves to go through, are blocked by the skin and the subcutaneous tissue. And so it can be problematic in sometimes even the best of cases.

Q. Are ob-gyn -- sorry. Strike that.

Are KCl injections to cause fetal demise typically only performed by MFMs?

A. Yes, ma'am.

Q. And are they only performed by a small subset of MFMs?

A. Yes, ma'am.

Q. And why does only -- do only a small subset of MFMs perform these injections?

MR. BIGGS: Your Honor I'm going to object to foundation. He can speak about himself; however, I don't think he should be able to speak to the wide array of MFMs in the country.

THE COURT: Ask him a predicate question about his experience and background.

Q. (BY MS. KEIGHLEY) At OHSU do only a certain subset of MFMs perform KCl injections?

A. Yes, ma'am.

Q. And why do only a subset of MFMs at OHSU perform KCl injections?

A. So, as I talked about, the potassium chloride --

15:17:52 intracardiac potassium chloride injection is a tricky procedure
15:17:55 to do; and, with any procedures, you want to minimize
15:17:59 complications. And what the field of medicine broadly has
15:18:01 shown over the last several decades is that having sufficient
15:18:05 volumes of procedures reduces complications.
15:18:07 So in the area of intracardiac injection of potassium
15:18:11 chloride, we only do a limited number of these procedures in a
15:18:15 given year. So we focus on having them done by a select group
15:18:18 of providers. We have 18 maternal fetal medicine providers,
15:18:22 and only two currently do them, with a third getting kind of
15:18:25 trained at the moment.
15:18:26 Q. Are there other types of ultrasound-guided needle
15:18:30 procedures that are typically only performed by MFMs?
15:18:34 A. Yes, ma'am.
15:18:35 Q. And what are some examples of those procedures?
15:18:37 A. Examples of that would be percutaneous umbilical blood
15:18:42 sampling, where we place a needle into the fetal umbilical cord
15:18:45 or an intrauterine transfusion, where we use that same needle
15:18:46 to infuse blood into the fetus, placement of intrathoracic or
15:18:51 bladder shunts. Those would be examples of such procedures.
15:18:55 Q. Are ob-gyn residents trained on how to perform KCl
15:19:00 injections at OHSU?
15:19:02 A. No, ma'am.
15:19:02 Q. Who is -- who is trained to perform these injections at
15:19:08 OHSU?

15:19:09 A. We train our maternal fetal medicine fellows to perform
15:19:13 these procedures.
15:19:14 Q. Dr. Berry testified that physicians could be trained how
15:19:18 to perform KCl injections using a trainer or simulation model.
15:19:22 In your opinion, is that an adequate method for
15:19:25 training physicians in how to perform KCl injections?
15:19:28 A. I'm not sure what you mean by "adequate," ma'am.
15:19:31 Q. Would that be sufficient, just using a trainer model?
15:19:35 A. No. That would not be sufficient on its own, ma'am.
15:19:38 Q. What else would be necessary in training physicians in how
15:19:44 to perform KCl injections?
15:19:46 A. So, again, because volume and facility with procedures
15:19:50 really enhances the ability of physicians that do procedures to
15:19:54 reduce complications, we've incorporated simulation for people
15:19:59 learning procedures early in the procedure, just to get
15:20:02 familiar with the basic mechanics of the procedure, and then
15:20:05 throughout the training to facilitate just the ability to kind
15:20:10 of manipulate more often. However, you have to also be trained
15:20:13 to do the procedure in the real situation.
15:20:16 Q. How long does it take an MFM fellow to be able to perform
15:20:20 a KCl injection without supervision?
15:20:22 A. So the maternal fetal medicine fellowship is three years.
15:20:27 And then, in order to demonstrate that someone is competent to
15:20:30 perform the procedure, they need to be observed actually doing
15:20:33 it in practice. And, generally, the number of procedures we

15:20:38 deem to be observed to be competent by another person who has
15:20:41 already been deemed to be competent is 10. That generally
15:20:44 takes about one to two years.
15:20:45 THE COURT: Ms. Keighley, you have until 3:25.
15:20:48 MS. KEIGHLEY: Understood.
15:20:48 MR. BIGGS: Your Honor, I'd object to foundation
15:20:49 about speaking about nationally how long it takes to train an
15:20:52 MFM.
15:20:53 THE COURT: Overruled.
15:20:58 Q. (BY MS. KEIGHLEY) Are you personally aware of any non-MFMs
15:21:01 who would administer KCl injections to cause fetal demise?
15:21:05 A. No, ma'am.
15:21:06 Q. Are you personally aware of any physicians that are
15:21:10 administering KCl before an abortion procedure in an outpatient
15:21:13 setting?
15:21:14 A. No, ma'am.
15:21:14 Q. Do you agree with Dr. Berry and Dr. Chireau's opinion that
15:21:20 it would be appropriate to inject KCl into the fetal trunk or
15:21:24 head?
15:21:24 A. To effect fetal demise, ma'am?
15:21:28 Q. Yes.
15:21:28 A. No, ma'am. That has not been extensively studied. That
15:21:32 would not be appropriate.
15:21:32 Q. Are you aware of any medical literature on administering
15:21:36 KCl outside the fetal heart or thorax?

15:21:39 A. No, ma'am.
15:21:40 Q. Are you aware of any of the medical literature that was
15:21:46 cited by Dr. Chireau regarding intracranial studies?
15:21:50 A. Yes. There were two small case series -- I think one had
15:21:53 four patients and another had 16 -- where intracranial
15:21:57 potassium chloride had been injected to effect fetal demise.
15:22:00 These are, you know, initial case reports. These are not
15:22:03 extensive research to demonstrate either the effectiveness,
15:22:07 efficacy, or safety of these procedures.
15:22:10 Q. Are you aware of any medical literature on administering
15:22:13 KCl injections into the fetal trunk, generally, as opposed to
15:22:16 the fetal heart or thorax?
15:22:18 A. No, ma'am.
15:22:18 Q. Are you personally aware of any physicians who administer
15:22:22 KCl into the fetal trunk or fetal head?
15:22:26 A. No, ma'am.
15:22:26 Q. Would it be a reasonable approach, in your opinion, for a
15:22:30 physician to inject KCl into the fetal trunk or head?
15:22:34 A. No. Again, the target -- it's called "intracardiac
15:22:39 potassium chloride." That's what it's called, "intracardiac
15:22:42 potassium chloride." That's the goal. That's the target. It
15:22:44 wouldn't be appropriate to place it anywhere else unless you
15:22:47 just fail to meet the target.
15:22:48 Q. Is there any reason why an injection into the fetal trunk
15:22:51 or fetal head would pose additional safety risks?

15:22:54 A. Well, not on itself, unless you were intending to do that,
15:22:57 right? Because then you might intend to do that by using a
15:23:00 larger dose. And, if you're using a larger dose, that could
15:23:04 increase the risk of complications.
15:23:06 Additionally, if you said, "Well, gosh, we can just
15:23:08 inject it anywhere," it allows less-trained people to perform
15:23:11 the procedure, and those less-trained procedure would be more
15:23:14 likely to have complications.
15:23:15 Q. And what type of complications are you speaking about?
15:23:18 A. Well, I guess what we're concerned about anything where
15:23:22 you're injecting potassium chloride into the maternal
15:23:25 circulation. This would be done by a needle that's been placed
15:23:27 into the wall of a uterus, into a vessel, or into the placenta.
15:23:30 Q. And what types of complications could that lead to?
15:23:33 A. Well, that would lead to, then, maternal arrhythmias,
15:23:38 maternal cardiac collapse, death.
15:23:40 Q. Do you have any experience with a patient experiencing a
15:23:43 cardiac complication after a KCl injection?
15:23:45 A. Only one. We had patient back when I was at UCSF that
15:23:51 went into an arrhythmia.
15:23:53 Q. Do you have any ethical concerns with requiring a fetal
15:23:56 demise before a D&E?
15:23:58 MR. BIGGS: Objection, Your Honor. This is outside
15:23:59 the scope of his rebuttal report. He actually testified in his
15:24:03 deposition he was not providing rebuttal of any of our

particular experts. So I would object to him offering any sort of ethical opinion.

MS. KEIGHLEY: This was part of his rebuttal report, and he --

THE COURT: Overruled. But this is your last question.

MS. KEIGHLEY: This is my last question, in fact.

A. I'm sorry, ma'am. Could you --

Q. So the question was whether you have any ethical concerns with requiring fetal demise before a D&E?

A. Yes, ma'am. The concern is that in -- for proper medical ethics to be allowed, we have to consider autonomy of the patient and the beneficence, that we're providing something that's beneficial. And we have to offer procedures and go over the risk-benefits and alternatives.

To have a procedure that has no proven medical benefit mandated to physicians means that the physician is going to be no longer allowed to share medical decision-making and informed consent with the patient.

THE COURT: Thank you, Ms. Keighley.

Mr. Biggs, you have five minutes.

MR. BIGGS: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. BIGGS:

Q. Dr. Caughey, you've only done -- you've done less than 20

15:25:01 multifetal reduction procedures yourself, correct?
15:25:04 A. Yes, sir.
15:25:04 Q. In fact, you've only done 12 under supervision, correct?
15:25:10 A. No. I think technically all the ones I ever did was where
15:25:14 I was being supervised or there was a second person there.
15:25:16 Q. And you've done none without supervision, correct?
15:25:18 A. Yes, sir.
15:25:19 Q. And so you wouldn't consider that to be a sufficient
15:25:22 volume to be competent, correct?
15:25:27 A. I would not, sir.
15:25:27 Q. Your training is limited to only Oregon, California, and
15:25:30 Massachusetts, correct?
15:25:31 A. Yes, sir.
15:25:31 Q. And you are not clinically familiar with digoxin, are you?
15:25:36 A. What, sir?
15:25:37 Q. You're not clinically familiar with digoxin, are you?
15:25:40 A. *Joxin*?
15:25:41 Q. Digoxin.
15:25:42 A. Oh. No. I'm very familiar with digoxin. I'm not sure
15:25:47 what you're asking.
15:25:48 MS. KEIGHLEY: This outside the scope of the direct.
15:25:50 THE COURT: Overruled.
15:25:51 Q. (BY MR. BIGGS) You've never been in the O.R. when someone
15:25:53 used digoxin, have you?
15:25:54 A. Used digoxin? No. We use digoxin quite frequently. It's

15:25:58 given to women, to --
15:25:59 Q. All right, sir. My question was: You've never been in
15:26:02 the O.R. when someone has injected digoxin? You haven't, have
15:26:06 you.
15:26:06 A. Injected digoxin into whom, sir?
15:26:08 Q. To cause fetal demise.
15:26:09 A. Oh. No, sir, I have not.
15:26:10 Q. And your opinions about training, they wouldn't pertain to
15:26:14 providers that already perform needle procedures, like amnio,
15:26:17 digoxin, or KCl, right?
15:26:19 A. I'm sorry. I couldn't quite understand you.
15:26:21 Q. Your opinions about training requirements wouldn't pertain
15:26:25 to providers that already perform needle procedures like amnio,
15:26:28 digoxin or, KCl, correct?
15:26:30 A. No. My opinions are exactly that, because maternal fetal
15:26:34 medicine providers do provide those procedures.
15:26:38 MR. BIGGS: Brian could you please play --
15:26:45 Q. You would agree with me that injecting the -- KCl into the
15:26:51 thoracic cavity of a fetus can bring about fetal demise without
15:26:56 dismembering a live fetus, correct?
15:26:57 A. I'm sorry. You're -- I know you're time-pressed. I
15:27:02 apologize. Can you say it --
15:27:03 Q. All right. Hold on.
15:27:04 A. -- so I can understand you.
15:27:05 Q. In intrafetal digoxin injection not into the heart is

15:27:09 pretty similar to an intrafetal KCl injection not into the
15:27:14 heart, technically speaking, correct?
15:27:15 A. Yes, sir.
15:27:16 Q. And you claimed earlier that nobody but MFMs are doing
15:27:21 intracardiac KCl, correct?
15:27:23 A. I don't know that I claimed that. I think I was asked if
15:27:26 I was aware of anyone other than MFMs, and I'm not aware of it.
15:27:29 Q. You would agree with me that family planning fellows at
15:27:33 OHSU are being trained to do intrafetal digoxin injections,
15:27:37 correct?
15:27:37 A. I believe that's correct, but I'm not -- I couldn't give
15:27:41 you the names or tell you exactly who trained them.
15:27:44 Q. So you can't tell this Court what's happening at your own
15:27:49 hospital, but you're here talking about national trends?
15:27:51 A. I couldn't tell you the specific --
15:27:51 MS. KEIGHLEY: Objection.
15:27:54 A. -- individuals. That's correct, sir.
15:27:55 Q. But you're aware that there are intrafetal digoxin
15:27:57 injections being trained at OHSU, correct?
15:28:00 A. I believe for the family planning fellows, that's correct.
15:28:03 Q. In fact, Mark Nichols trains doctors to do intrafetal
15:28:06 digoxin injections, correct?
15:28:08 A. I believe you're correct, sir. Yeah.
15:28:10 Q. But you didn't even know that at your deposition, did you?
15:28:13 A. No, sir, I did not.

15:28:14 Q. And you're unfamiliar with any of the plaintiffs' skills
15:28:17 in this case, correct?
15:28:19 A. That's correct, sir.
15:28:20 Q. You haven't spoken to any plaintiff in this case about
15:28:22 what they can or can't do with a needle, right?
15:28:25 A. That is correct.
15:28:27 Q. You haven't talked to any provider in Texas about whether
15:28:30 or not they can already do an intrafetal KCl injection,
15:28:34 correct?
15:28:36 A. I've spoken with providers in Texas in the past, but not
15:28:39 specifically related to this case.
15:28:40 Q. So the answer is, no, you haven't spoken to anybody in
15:28:43 connection with this case about whether or not providers in
15:28:45 Texas already do intrafetal KCl injections, right?
15:28:49 A. When you say "providers," do you mean abortion providers?
15:28:52 Q. Abortion providers, yes.
15:28:54 A. No. I haven't spoken to anyone related to this case
15:28:57 related to whether abortion providers can perform intracardiac
15:29:00 KCl injections.
15:29:02 Q. So you're unaware that Robin Wallace, a plaintiff in this
15:29:05 case, can already do intrafetal digoxin injections?
15:29:09 A. I'm unaware of that, sir.
15:29:11 Q. So you're unaware that Curtis Boyd, a former plaintiff in
15:29:14 this case, can already do intrafetal digoxin injections?
15:29:17 A. I'm unaware of that as well.

15:29:19 Q. So you're unaware that the majority of the abortion
15:29:23 providers that are connected to the case can already do
15:29:25 intrafetal digoxin injections, right?
15:29:27 MS. RIKELMAN: Objection. Lacks foundation.
15:29:28 THE COURT: Overruled.
15:29:29 Q. (BY MR. BIGGS) You can answer the question.
15:29:30 A. Yes, sir. I'm unaware of that.
15:29:44 THE COURT: Two more questions, Mr. Biggs. Make them
15:29:46 count.
15:29:49 Q. (BY MR. BIGGS) Are you aware that Robin Wallace is not
15:29:52 even an OB?
15:29:55 A. No, sir. I don't know Robin Wallace.
15:30:02 MR. BIGGS: I've got to make it a good one, I guess.
15:30:04 THE COURT: Yes. The entire courtroom is all
15:30:10 aquiver.
15:30:13 THE WITNESS: Solutions for our national debt crisis
15:30:13 perhaps? These would be good questions to ask.
15:30:13 Q. (BY MR. BIGGS) You'd agree with me there are alternative
15:30:23 means available to providers in Texas to bring about fetal
15:30:27 demise that do not require the dismemberment of a living fetus,
15:30:31 correct?
15:30:33 A. Yes, sir.
15:30:34 MR. BIGGS: Pass the witness.
15:30:39 MS. KEIGHLEY: Nothing further.
15:30:40 THE COURT: You may step down.

15:30:42 THE WITNESS: Thank you, sir.

15:30:44 THE COURT: Do the plaintiffs close subject to straightening out the situation with the exhibits?

15:30:52 MR. LAWRENCE: Your Honor, if -- I would be remiss if I didn't raise it. We do have the issue that we raised with respect to the State's complication forms, that we had documents that are business records. They're medical records from Southwestern. We have someone here who could -- I could do it in a minute just to authenticate them as business records. They are Southwestern forms and complication forms sent to the Department of State. She is here. I could get them in or they could just agree to waive it.

15:31:29 THE COURT: Mr. Stephens?

15:31:30 MR. STEPHENS: Your Honor, what he's attempting to do is put on a new witness who was never identified as a rebuttal witness who was never disclosed in this case.

15:31:37 THE COURT: All right. Presume --

15:31:38 MR. STEPHENS: And I would like to cross-examine the witness.

15:31:40 THE COURT: Well, is the witness going to be put on solely as a records custodian?

15:31:44 MR. LAWRENCE: That's it. Just ask the three questions.

15:31:47 MR. STEPHENS: Your Honor, he's attempting to put into the record evidence that should have been put in in his

15:31:51 case in chief because he now realizes that there's no evidence
15:31:53 in the record to support the claims as to safety. That is
15:31:56 prejudicial to the State if we don't have an opportunity to
15:31:59 fully and fairly cross-examine a witness about those documents.
15:32:02 THE COURT: What do you need to cross-examine a
15:32:05 records custodian about?
15:32:06 MR. STEPHENS: The records that the individual is
15:32:08 attempting to put in. This person is trying to put in medical
15:32:11 records, is my understanding.
15:32:17 MR. LAWRENCE: All we're asking --
15:32:20 MR. STEPHENS: It's not even on their exhibit list.
15:32:20 MR. LAWRENCE: Your Honor, these are to make the
15:32:20 record more complete about the actual complications that are
15:32:23 reflected in their exhibit. It is rebuttal. This witness is
15:32:26 going to be asked three questions -- do you recognize these
15:32:29 records -- who are you? Do you recognize these records? Are
15:32:32 they made in the normal course of business? Is it, you know --
15:32:34 THE COURT: Well, I'm going to deny the request. We
15:32:38 talked yesterday. We talked again today about what was left in
15:32:42 this case and what needed to be put on. Those could have been
15:32:45 put on when we had time to do it. It was not. We've been
15:32:50 trying this case now for almost five days. So your request for
15:32:54 additional exhibits is overruled.
15:32:59 MR. LAWRENCE: Understood, Your Honor.
15:33:03 THE COURT: That ruling having been made, do the

plaintiffs close?

MR. LAWRENCE: Yes. Should we identify them with the Court just so that we have a record of what we've proffered?

THE COURT: You may proffer them for the record for purposes of appeal.

MR. LAWRENCE: We will get -- we've given the copies to the defendants. We'll make sure you have copies as well.

THE COURT: All right. Now the answer to my question is?

MR. LAWRENCE: Yes. We -- and just for the proffer, Your Honor, it is exhibits Plaintiffs' Exhibits 161 through 166.

THE COURT: No. Do you close?

MR. LAWRENCE: And we do close.

THE COURT: All right. Mr. Stephens?

MR. STEPHENS: And there's no testimony for the purposes of the proffer, so my understanding is that these are not --

THE COURT: I am presuming for the purpose of my denying their admissibility that they could be properly authenticated by a witness that was called. I'm allowing them to be put into the record so the Circuit may determine whether or not I should have allowed them to be proved up and placed in the record.

MR. LAWRENCE: And we do close. Thank you,

Your Honor.

THE COURT: Do the defendants close?

MR. MCCARTY: Yes. Your Honor. And we would simply renew our rule 58 motion for judgment as a matter of law.

THE COURT: All right. And rule 58 -- the rule 50 motion is overruled.

All right. We're going to take five minutes to allow you-all to set up. We'll be back at 20 minutes 'til 4:00, and the plaintiffs will present argument. The plaintiffs may reserve part of their time for rebuttal, but I want a complete opening. I don't want a short opening and then the crux of your argument in the rebuttal. I want a complete opening. Court's in recess.

(Recess)

(Open court)

THE COURT: Plaintiffs may commence closing argument.

PLAINTIFFS' CLOSING ARGUMENT

MS. CREPPS: Our complaint alleges that Senate Bill 8 imposes an undue burden on Texas women seeking second-trimester abortions, in violation of the Fourteenth Amendment to the Constitution. Plaintiffs have established this claim by showing the grave harms that will result from enforcement of this ban on D&E procedures.

SB 8 will turn back the clock on advances in medical care that have made second-trimester abortion both safe and

15:43:07 accessible, forcing physicians to either stop providing D&Es or
15:43:11 risk criminal prosecution. As the evidence has made clear,
15:43:16 there is no fail-safe way for physicians to continue to provide
15:43:20 D&Es without fear of prosecution.
15:43:23 Attempting to do so would require women to undergo
15:43:26 invasive and unnecessary medical procedures. In addition to
15:43:30 these harms, even if physicians attempt to comply with SB 8,
15:43:35 not only would many women be forced to forgo -- to undergo an
15:43:39 unnecessary medical procedure, they would have to make an
15:43:44 additional trip to the abortion facility, a trip that many
15:43:46 women can ill afford, and which may place abortion care out of
15:43:50 reach.
15:43:51 The State has failed to balance these significant and
15:43:55 concrete harms with any evidence that SB 8 will advance their
15:44:00 asserted interests. SB 8 does not advance an interest in
15:44:05 medical ethics. It is not justified by concern for fetal pain,
15:44:09 and arbitrarily prescribes one manor of fetal death. The
15:44:16 evidence establishes that SB 8 violates three fundamental
15:44:20 constitutional principles, each of which condemns the Act and
15:44:25 collectively make it plain it cannot stand.
15:44:27 First, under the *Danforth* case, the State cannot
15:44:32 regulate abortion procedures in a way that makes abortion less
15:44:35 safe. Second, under *Stenberg* and *Gonzales*, the State cannot
15:44:41 ban D&E procedures regardless of the availability of demise
15:44:45 procedures. And, third, under *Whole Woman's Health v.*

15:44:50 *Hellerstedt*, the State must establish that the law actually
15:44:54 advances its asserted interest and that the law's benefits
15:44:56 outweigh its burdens.
15:44:58 Looking at the burdens that enforcement of SB 8 would
15:45:03 create, it is an untested fact that the definition of
15:45:07 dismemberment abortion encompasses the D&E procedure.
15:45:12 Physicians begin using the D&E as early as 14 weeks. It is the
15:45:15 safest and most common method of abortion after approximately
15:45:19 15 weeks. The D&E procedure represents the current standard of
15:45:25 care for abortions. Its development and adoption represents an
15:45:30 advance in medical care and access.
15:45:34 SB 8 would make it a felony to perform this procedure
15:45:38 unless the physician has caused fetal demise before using
15:45:41 forceps. The evidence makes clear, however, that there is no
15:45:45 way for a physician to begin a D&E procedure and know that
15:45:49 demise will occur and that he or she will be able to safely
15:45:52 complete the procedure.
15:45:54 This is true for digoxin, which both the experience
15:45:58 of physicians and the studies show has a failure rate of 5 to
15:46:01 10 percent. This is true for KCl, which the studies relied on
15:46:07 by the State show also fails to work in some cases, even
15:46:10 following direct intracardiac injection. And it is true for
15:46:15 umbilical cord transection, which the testimony makes clear,
15:46:18 including that of Dr. Wallace, who has direct experience, that
15:46:22 is not always possible. And this is no way to know if it will

15:46:26 be possible until the abortion procedure has begun.
15:46:29 THE COURT: Ms. Crepps, what, boiled down, is the
15:46:35 question that this Court must answer for the plaintiffs to
15:46:39 prevail in this case?
15:46:44 MS. CREPPS: The question that the Court must answer
15:46:46 is whether the burdens that we have established --
15:46:49 THE COURT: No. No. It would be the burden
15:46:51 established, if any, by Senate Bill 8.
15:46:55 MS. CREPPS: Yes.
15:46:55 THE COURT: This is what I want to get to, is exactly
15:46:58 what the issue is here. When we deal with these cases that are
15:47:01 of great public interest and have political ramifications to
15:47:05 them, it is often difficult do get through the well-held
15:47:10 beliefs of people of goodwill on both sides and get down
15:47:14 exactly to what the legal issue is that this Court must rule
15:47:19 on.
15:47:19 Here we have a procedure, a D&E procedure, that has
15:47:24 been in effect for quite some time, performed the same way, the
15:47:27 evidence is, and we have intervention by the Texas Legislature
15:47:33 with Senate Bill 8. For you to prevail, what question must I
15:47:41 answer in your favor? Simply put, what is it?
15:47:48 MS. CREPPS: That the changes in practice that would
15:47:51 be required as a result of Senate Bill 8 in order for
15:47:55 physicians to continue providing D&E procedures, that the
15:48:01 burdens of those changes outweigh any benefits that the State

15:48:05 is able to establish as a result of enforcement of
15:48:09 Senate Bill 8.
15:48:10 THE COURT: And, therefore, create an undue burden on
15:48:14 the right of abortion, as expressed several times by the
15:48:17 United States Supreme Court?
15:48:19 MS. CREPPS: Exactly. In the *Whole Woman's Health*
15:48:21 decision.
15:48:21 THE COURT: So Senate Bill 8 has to -- the practice
15:48:26 as decreed by Senate Bill 8 or mandated by Senate Bill 8 must
15:48:33 outweigh the State's interest in protecting fetal life to the
15:48:39 extent that they place an undue burden on the right of a woman
15:48:43 to have a pre-fetal viability abortion?
15:48:49 MS. CREPPS: That's correct, Your Honor.
15:48:51 THE COURT: All right. Now, Senate Bill 8 has a lot
15:49:01 of provisions in it. It's in evidence. We've discussed it.
15:49:04 Is the difference, boiled down, that Senate Bill 8 brings
15:49:09 about, simply put, that it requires fetal demise before a D&E
15:49:20 procedure may be conducted?
15:49:23 MS. CREPPS: Yes, Your Honor.
15:49:25 THE COURT: And that is the burden?
15:49:27 MS. CREPPS: Yes, Your Honor.
15:49:32 THE COURT: All right you may proceed.
15:49:33 MS. CREPPS: Thank you. The testimony in this case
15:49:35 establishes that enforcement of Senate Bill 8 would result in
15:49:40 reduced access to second-trimester abortions in Texas. Three

15:49:44 doctors will cease or reduce their services -- Dr. Lynn will
15:49:48 retire; Dr. Dermish and the other physician at PPGT will stop
15:49:54 providing abortions at 17 weeks and above. Other physicians
15:49:58 simply can't say how they would navigate the impossible choices
15:50:03 presented by Senate Bill 8.
15:50:05 Those choices are to cease providing D&Es or reduce
15:50:08 the gestational ages at which they're providing procedures,
15:50:13 subject their patients to an invasive and unnecessary medical
15:50:16 procedure that are, in some instances, unstudied. The one
15:50:22 option that would not be available is for the physicians to
15:50:25 continue providing the care that they believe is best for their
15:50:28 patients. To do that would lead to criminal prosecution and to
15:50:32 jail time.
15:50:34 Senate Bill 8 imposes many burdens on women seeking
15:50:39 second-trimester abortions in Texas, including, as I just
15:50:43 mentioned, a reduction in services due to physicians ceasing to
15:50:46 perform procedures or reducing the services they provide.
15:50:49 Should some physicians continue to offer the
15:50:52 services, women would face significant and concrete burdens,
15:50:58 the most egregious of which is the requirement that women
15:51:01 undergo an invasive and medically unnecessary procedure -- and
15:51:06 by that I mean requiring women to undergo a demise procedure by
15:51:11 digoxin, to undergo a transabdominal or transvaginal injection,
15:51:17 with a four-inch needle. This is an unprecedented invasion
15:51:21 that has never been countenanced by the United States Supreme

Court.

In addition, the testimony is undisputed that many women seeking abortions prior to 18 weeks would be required to make an additional trip to the clinic 24 hours ahead of their scheduled abortion in order to undergo the demise procedure. This extra trip alone is burdensome for all women, but will be especially difficult, if not impossible, for low-income women.

Requiring that women make an extra trip to the clinic 24 hours ahead requires them to miss work and lose wages, arrange child care, and, for women who live a significant distance from the facility, to stay overnight in a hotel. For low-income women, these concrete burdens will inevitably lead to delay or prevent them from receiving abortions.

THE COURT: How high is the undue burden bar? The Supreme Court uses language like "burden" and "undue burden." How high is that bar? When does a burden become an undue burden?

MS. CREPPS: Your Honor, I think the *Whole Woman's Health* case has made clear that a burden is undue when the benefits of the law -- let me say it the other way. It's easier for me. Excuse me -- when the burdens of the law are greater than the benefits that have been established. In other words, it's a relative burden. There's not a place where the bar is set. You have to look at the burdens and look at the benefits. And if the burdens are -- if the benefits don't

outweigh the burdens, then, by definition, the burden is undue.

THE COURT: Has anything changed medically since the Supreme Court's opinions in *Stenberg* and *Gonzales*?

MS. CREPPS: No, Your Honor. I don't believe that there's been any material change in the medicine, because a critical factor in the -- in the Court's opinion in *Stenberg* was its acknowledgment that physicians could cause demise or were causing demise at 20 weeks and above using digoxin -- or they may have mentioned KCl. And, yet, the Court still found that the ban on D&E was an undue burden.

And, in the *Gonzales* opinion, I think it is clear that it was the continued availability of standard D&E procedures, which the Court acknowledged completely separately from its acknowledgment that demise procedures would also be available for physicians wishing to perform the banned intact D&X procedure.

THE COURT: And what is the difference between the D&E procedure and described in *Stenberg* and the partial birth abortion described in *Gonzales*?

MS. CREPPS: Well, I think a helpful way to approach this is that, in the *Stenberg* case, the Court found that the State intended to ban intact D&X procedures but, in fact, banned both procedures. And that contributed to the constitutional violation, which is what we actually have with Senate Bill 8 -- a different provision bans the intact D&X

15:55:03 procedure.

15:55:03 The difference medically is that, under the federal
15:55:07 and common definition of partial-birth abortion, a fetus must
15:55:12 have the intent to remove -- I'm sorry -- a physician must have
15:55:18 the intent to remove the fetus intact to a certain anatomical
15:55:23 landmark before undertaking a procedure that causes the demise
15:55:27 of the -- of the fetus. And that was a minority procedure, not
15:55:35 as compared to the standard D&E procedure, which is what the
15:55:40 State is seeking to ban here.

15:55:41 Did that answer your question? I'm not sure I got
15:55:44 the whole thing.

15:55:44 THE COURT: Well, where I'm going with this is, we
15:55:47 have what I call the two *Carhart* cases, *Stenberg* and *Gonzales*.
15:55:52 All right. And in *Gonzales* the Supreme Court mandated fetal
15:55:59 demise before the abortion procedure, as described in the
15:56:03 *Gonzales* case. And the Supreme Court said, "Here the Act"
15:56:07 which is the federal act, "allows, among other means, a
15:56:14 commonly used and generally accepted method, so it does not
15:56:18 construct a substantial obstacle to the abortion right." And
15:56:21 when I read the earlier parts of the opinion, it appears clear
15:56:24 to me that the Supreme Court is talking about the D&E
15:56:26 procedure.

15:56:27 MS. CREPPS: That's correct, Your Honor.

15:56:29 THE COURT: All right. So there has to be a
15:56:31 difference that the Supreme Court observed in writing *Gonzales*

15:56:36 10 years ago between a standard, for want of a better phrase,
15:56:43 D&E procedure and a partial-birth abortion.
15:56:47 MS. CREPPS: That's correct. And that difference is
15:56:49 that the partial-birth abortion, or intact D&X, is the
15:56:56 physician intends to remove the fetus intact to a particular
15:57:01 anatomical landmark, which I believe in the Act is perhaps
15:57:05 above the naval or the entire head, for the purpose of
15:57:10 performing a procedure that causes fetal demise.
15:57:14 THE COURT: All right. And your argument is, since
15:57:18 *Gonzales* was decided in 2007, there has been no changes in
15:57:24 medical procedure that would mandate what Senate Bill 8 does
15:57:30 regarding the health of the woman or the fetus; is that
15:57:33 correct?
15:57:33 MS. CREPPS: That's correct, Your Honor.
15:57:34 THE COURT: All right. You may proceed.
15:57:36 MS. CREPPS: Thank you. I was reviewing some of the
15:57:42 burdens that I believe the evidence has established in this
15:57:46 case, and one of those burdens is that many women seeking
15:57:51 abortions prior to 18 weeks would be required to make an
15:57:57 additional trip to the clinic 24 hours ahead of their scheduled
15:58:01 abortion in order to undergo the demise procedure.
15:58:06 Another burden is that, in addition, there will be
15:58:13 undeniably added costs for the abortion prior to 18 weeks as a
15:58:16 result of having to add an additional patient visit and medical
15:58:20 procedure onto the standard D&E procedure, and these costs come

15:58:26 from physician and staff time in addition to the necessary
15:58:30 administrative time and expense. The procedure would require
15:58:34 the patient -- would require, excuse me, patient evaluation and
15:58:38 monitoring by medical staff, possibly moderate sedation, and
15:58:42 the time of the physician and a trained ultrasound operator.
15:58:47 And as the testimony showed and, specifically Dr. Kumar, there
15:58:50 is no way to add this medical procedure without increasing the
15:58:53 costs of the abortion.
15:58:56 Before addressing this specific problems with digoxin
15:59:00 KCl, and umbilical cord transection, I'd like to address what
15:59:05 training might be necessary for physicians to attempt these
15:59:08 procedures in their outpatient abortion facilities.
15:59:11 There's been evidence in this case back and forth
15:59:14 from both sides about what training would be -- would be
15:59:17 required for physicians to undertake these different methods.
15:59:21 But, ultimately, however, whether it would be possible for all
15:59:25 second-trimester abortion providers to obtain the technical
15:59:28 skills necessary to perform demise procedures is beside the
15:59:33 point. None of these suggested demise procedures will ensure
15:59:37 demise in every case.
15:59:39 No physician, no matter how skilled, could start a
15:59:42 D&E procedure with 100 percent confidence that their attempt to
15:59:47 cause demise will succeed. And even if somehow every physician
15:59:51 providing second-trimester abortions could obtain the necessary
15:59:56 skill overnight, all of the harms to women that flow from an

16:00:02 unnecessary and invasive medical procedure are still there.
16:00:06 There's more to good medicine than technical skill, including
16:00:10 not subjecting women to unnecessary, untested, an understudied
16:00:15 medical procedures.
16:00:17 I'd like to talk a little bit now about digoxin. The
16:00:24 State suggests that physicians can avoid prosecution under
16:00:26 Senate Bill 8 by ensuring fetal demise through an injection of
16:00:30 digoxin before every D&E procedure. Digoxin does not cure the
16:00:35 burdens imposed by Senate Bill 8.
16:00:38 In the first instance, demise by digoxin requires
16:00:42 women to undergo an invasive medical procedure consisting of
16:00:46 injection through the abdomen or vagina with a four-inch needle
16:00:50 in order to reach the fetus. This procedure itself can be
16:00:55 preceded by another injection to relieve pain which may or may
16:00:57 not be completely effective. In fact, the procedure may be
16:01:02 difficult enough that patients will be offered moderate
16:01:05 sedation.
16:01:07 Attempting to cause fetal demise by digoxin subjects
16:01:10 the patient to significant risks. These include infection,
16:01:14 increased risks of extramural delivery, increased risk of
16:01:19 allergic reaction, and increased risk of hospitalization. And
16:01:23 the digoxin procedure has a number of potential side effects,
16:01:27 including allergic reaction to the anesthetic or digoxin,
16:01:32 nausea, vomiting, blurred vision, and lightheadedness. The
16:01:37 State has attempted to minimize these risks, but the evidence

16:01:40 is clear -- there is no denying that these risks exist and are
16:01:43 present for every woman undergoing a digoxin injection.
16:01:47 A critical fact that has become clear through the
16:01:51 evidence is that digoxin injections are not always successful
16:01:56 and that digoxin fails to cause demise in 5 to 10 percent of
16:02:00 attempts.
16:02:01 THE COURT: Let me ask you a question. In *Gonzales*
16:02:06 the Supreme Court wrote, "Subsequent to viability the State, in
16:02:11 promoting its interest in the potentiality of human life, may,
16:02:15 if it chooses, regulate, or even proscribe, abortion except
16:02:20 where it is necessary, in appropriate medical judgment, for the
16:02:23 preservation of the life or health of the mother."
16:02:27 Here it appears to me that the State has proposed a
16:02:36 statute designed to further its interest in fetal life, but it
16:02:43 does not appear that it is related to the health or life of the
16:02:49 mother. Do you concur in that?
16:02:52 MS. CREPPS: I do, Your Honor.
16:02:53 THE COURT: Then does it matter, in your opinion,
16:02:56 whether or not the use of potassium chloride or digoxin or
16:03:03 transumbilical severance is safe or not? Do you contend that
16:03:10 the undue burden exists regardless of the safety of the three
16:03:16 procedures that have been described in court here over the
16:03:20 course of this trial?
16:03:21 MS. CREPPS: I do believe that there's an undue
16:03:23 burden. And I think --

16:03:26 THE COURT: No. It's -- my question is different.
16:03:28 MS. CREPPS: Okay.
16:03:29 THE COURT: Not whether it's an undue burden, but do I get to the question of the safety of the three methods of fetal demise that were described here if the addition of that fetal demise provision by Senate Bill 8 was not for the health or preservation of the life of the mother, but is to prescribe fetal demise, which I'm not being critical of is a legitimate interest of the State in preserving fetal life. But do I even get to that point if the Supreme Court has said the State's regulations must, in its appropriate medical judgment, be for the preservation of the life or health of the mother, and I have not heard any evidence over the past five days that those procedures affect the life or health of the mother?
16:04:33 MS. CREPPS: Your Honor, I don't think that it is necessary for you to go beyond the Court's analysis in *Stenberg.* And if you look at the -- the Court actually provides an extensive list of the different justifications that were offered in that case, and those were not maternal health justifications. And the Court found the statute -- even after it acknowledges the availability of fetal demise, the Court still found that the statute is an undue burden.
16:05:11 I will say, given your acknowledgment and I think everybody's understanding, that this case is headed to the Fifth Circuit and, given the Court's recent discussion in *Whole*

16:05:28 *Woman's Health* about the importance of evidentiary findings,
16:05:32 that prudence would probably suggest that the Court reach both
16:05:38 issues. I'm not trying to suggest additional work for
16:05:43 the Court, but I do believe that that --
16:05:45 THE COURT: Well, I'm sure if you did, you'd be the
16:05:47 first lawyer that's ever suggested it.
16:05:50 MS. CREPPS: I've tried to learn something over the
16:05:52 last five days, Your Honor. So I think that this case is
16:05:58 within the four corners of *Stenberg* and that that case remains
16:06:03 controlling precedent. I think that another way to consider it
16:06:11 is that *Stenberg* provides guidance to the Court, and you must,
16:06:14 nevertheless, under *Whole Woman's Health* continue forward to do
16:06:18 the balancing of benefits versus burdens. And so I think that
16:06:23 that's probably the -- the way to go.
16:06:28 THE COURT: Thank you.
16:06:28 MS. CREPPS: I was discussing the fact that the
16:06:38 evidence in this case establishes that digoxin fails to cause
16:06:41 demise in 5 to 10 percent of cases. And that fact is supported
16:06:45 not only by numerous studies, but also by the testimony of
16:06:52 physicians in this case with actual experience, which includes
16:06:55 both Dr. Nichols and Dr. Wallace, and they also have had those
16:07:03 digoxin failures. And none of these physicians provide -- have
16:07:10 ever provided digoxin below 18 weeks. And what this evidence
16:07:14 establishes is that attempting to cause demise by digoxin does
16:07:17 not provide a means by which physicians can comply with SB 8

and continue to provide D&E procedures.

The experienced physicians and the vast majorities of the studies on digoxin show that digoxin is not administered at all prior to 18 weeks. The scant literature involving a small number of patients prior to 18 weeks does not establish the safety and efficacy of this practice before 18 weeks.

While the State would ask physicians to assume that using digoxin prior to 18 weeks would be safe and efficacious, the testimony demonstrates that physicians do not subject their patients to unstudied medical care on the presumption that it's safe. The proper way to proceed is to conduct controlled studies that have received appropriate approval, but not to require Texas physicians to simply proceed into uncharted territory and hope for the best.

No physician testifying in this case has done digoxin below 18 weeks, so they do not have any experience attempting to do those procedures earlier. Based on their experience, these physicians believe that such injections would be more difficult and more likely to be intra-amniotic rather than intrafetal. Therefore, even if it were possible to safely inject the fetus below 18 weeks -- a fact that is not established -- such an injection would be more likely to be intra-amniotic and, therefore, less likely to be successful.

Both the testimony and common sense support that conclusion, that digoxin prior to 18 weeks will be harder to

16:09:00 accomplish. And, to the extent that it is successful, it's
16:09:03 likely to be intra-amniotic. And, while both intra-amniotic
16:09:08 and intrafetal digoxin fail to cause demise in 5 to 10 percent
16:09:14 of the cases, intra-amniotic has a higher failure rate. What
16:09:18 the State is suggesting, therefore, that physicians undertake
16:09:21 procedures that are less likely to be effective on pain of
16:09:25 criminal penalty should they fail.
16:09:27 The evidence in this case is that Alamo Women's
16:09:33 digoxin is administered beginning 18 weeks and that at
16:09:37 Southwestern it's administered beginning at 20 weeks. The
16:09:40 reasons for this vary. While some physicians believe that it
16:09:43 makes procedure easier, others do not. Demise procedures do,
16:09:50 however, protect physicians from prosecution under the federal
16:09:54 Partial-Birth Abortion Act and now the Texas ban and prevents
16:09:56 the emotional and potential legal complications ensuing from
16:10:01 early expulsion of a nonviable fetus that still has detectable
16:10:05 heart tones.
16:10:06 None of these reasons apply to fetuses below 18
16:10:10 weeks. More, importantly, these physicians know from their own
16:10:13 experience that digoxin will not always work and that they will
16:10:16 not know beforehand whether or not they will be successful in
16:10:20 causing demise.
16:10:21 Whether the number of patients is 5 to 10 out of 100,
16:10:26 or 1 out of 100, the risks are the -- are there for every
16:10:30 patient. For this reason, Dr. Dermish, who has previously

provided digoxin, would not feel comfortable doing so under the Act and would therefore stop providing procedures after 17.6 weeks.

Should SB 8 take effect and physicians attempt to comply with the Act by administering digoxin, there will be cases where demise will not have occurred when the patient returns the next day. With very rare exceptions and for very sound medical reasons, physicians do not attempt a second injection of digoxin.

Under current practice, women are receiving laminaria and digoxin at the same time. When the woman returns to the facility the next day, she's typically adequately dilated and ready to complete the procedure. Delaying the procedure at that point to attempt demise by a second injection subjects the woman to an increased risk of infection and extramural delivery. This on top of the fact that she's being subjected once again to an invasive medical procedure that, at that point, has no medical benefits. And, of course, the additional delay and trip to the clinic imposes yet more burdens on women.

It's not surprising, therefore, that there are no studies on the safety and efficacy of a second digoxin injection; and, yet, the State is willing to subject Texas women to these risks as the price of obtaining a second-trimester abortion.

The evidence has established that the vast majority

of women receiving a second-trimester abortion prior to 18 weeks able to complete both dilation and completion of the procedure in one day. The testimony of experienced providers and the studies all show that digoxin takes an unpredictable amount of time and that the standard of care for those administering digoxin is to have the patient return 24 hours later.

Any suggestion that women would be able to receive a digoxin injection and complete their abortion on the same day is unsupported by the evidence before the Court. Having a woman come to the clinic and wait all day with no certainty as to whether demise will occur for her in time to have her abortion that day or have to return to the clinic the next day is neither a viable means of practicing medicine or a reasonable burden to place on women.

Indeed, one of the reasons that the D&E represents an advance for women's health care and the provision of second-trimester abortions is the fact that, unlike induction, the patient has certainty as to when the procedure will be complete.

The State is also suggesting that injecting a fetus with KCl is a possible means of complying with the Act, but that is not the case. It's telling that the only witnesses who have done KCl are highly experienced MFMs, which is also reflected in the studies relied on by the State, not to mention

16:13:27 that the procedures reported in those studies were all
16:13:31 performed in hospital settings.
16:13:33 The suggestion that it would be possible and
16:13:35 appropriate to introduce KCl injections into the outpatient
16:13:39 abortion setting to be performed by physicians who, while
16:13:42 highly qualified to perform abortions, do not have the
16:13:47 specialized training to perform KCl injections safely and
16:13:49 effectively, is simply not practical.
16:13:53 As Dr. Caughey testified, intracardiac KCl injection
16:13:57 is a technically difficult procedure performed only by MFMs.
16:14:02 Abortion providers in Texas lack the training to do this.
16:14:06 Moreover, there is no support for the suggestion that KCl can
16:14:10 be effectively injected outside the fetal heart or thorax.
16:14:17 This is yet another illustration of the disregard
16:14:19 that the State has for the best practices of medicine and the
16:14:22 health and safety of women seeking second-trimester abortions.
16:14:27 Importantly, in addition, KCl, like digoxin, is not
16:14:31 100-percent successful in causing fetal demise. And, like
16:14:35 digoxin, KCl requires women to undergo an invasive injection
16:14:41 through the abdomen, along with the risks that accompany such a
16:14:44 procedure.
16:14:45 In addition, there is the added risk that a
16:14:47 misdirected injection could seriously threaten a woman's
16:14:51 health. Several witnesses testified about a case report in
16:14:54 which a woman experienced cardiac arrest following a KCl

injection. The State has attempted to minimize this KCl complication by pointing out that the woman did not die as a result.

The testimony establishes that KCl is not a means by which outpatient abortion providers can comply with Senate Bill 8. It is, again, an unstudied and impractical procedure which, like digoxin, does not always work.

THE COURT: Does the State have to prove that there is no risk to the woman if the State imposes an additional burden?

MS. CREPPS: I believe the State does have that burden and, if they failed to meet it, that the law is unconstitutional under the principles that the Supreme Court announced in the *Danforth* case, which are that the State cannot regulate abortion by making the procedure less safe for the woman. And I think that's exactly what is happening here.

I'd like to move on to discuss umbilical cord transection, which has also been suggested as a means by which physicians could cause fetal demise prior to a D&E procedure.

The testimony makes clear, however, that UCT is not possible in every case and that the physician won't know prior to beginning the procedure whether or not he or she will be able to grasp and cut the cord. Like the other suggestions that the State is offering for demise, UCT is understudied. Indeed, only a single study at a single facility is available.

16:16:40 The authors of this study, which is the Tocce study, identify
16:16:44 its lack of generalizability as its most significant
16:16:48 limitation. This lone study does not establish the safety and
16:16:54 efficacy of umbilical cord transaction prior to every D&E
16:16:58 procedure.

16:16:58 Experienced D&E providers testified that the safest
16:17:01 way to perform the procedure is to grasp and remove whatever is
16:17:05 closest to the cervix. Attempting umbilical transection when
16:17:10 the cord does not present itself would require manipulation of
16:17:15 the forceps high up in the uterus. But, as the evidence
16:17:18 establishes, every insertion of instruments into the uterus
16:17:20 increases the risk of infection and perforation.

16:17:23 In addition, even if it were possible to safely
16:17:25 locate and cut the cord, requiring patients to wait for demise
16:17:33 prolongs the procedure and increases the risk of hemorrhage.
16:17:36 And these risks come, as Your Honor has just asked about, with
16:17:40 no medical benefit to the patient.

16:17:44 There has also been a suggestion by witnesses for the
16:17:50 State that suction could be used to cause demise up to
16:17:53 16.6 weeks in every case. That, too, is an unsupported
16:17:57 speculation. Even Dr. Levatino testified that he began using
16:18:03 D&E procedures at 14 weeks. While it may be possible for some
16:18:07 physicians in some cases to use suction up to 16.6 weeks, as
16:18:12 Dr. Dermish testified, there will undoubtedly be patients for
16:18:16 whom it is not possible due to fetal positioning, the woman's

anatomy, or other circumstances.

Dr. Nichols and the other experienced providers testified that a physician should provide abortions in the means that is safest for the patient based on the physician's experience, skill, and training; and that, not only is suction up to 16.6 weeks not always possible, it would reduce the safety of abortion to require every physician to do so in every case.

With these three -- with these various proposals for demise, the State is suggesting a haphazard patchwork of changes that every physician could make in order to comply with SB 8, including later aspiration abortions, earlier use of digoxin, second injections of digoxin, KCl, and umbilical cord transection, none of which guarantee that a physician could start a D&E procedure without fear of prosecution and all out of which undermine the safety of abortion in the second trimester.

I'd like to turn now to the other half of the undue burden analysis, which is an assessment of whether the State has established any benefits from the Act and whether those benefits outweigh the burdens.

As the Supreme Court explained in *Whole Woman's Health*, whether an obstacle is substantial and a burden is, therefore, undue has to be judged in relation to the benefits the law provides. In *Whole Woman's Health*, the Court balanced

16:19:54 or weighed the burdens that would flow from HB 2 against the
16:19:57 benefits, and that is what the Court similarly needs to do
16:20:01 here.
16:20:06 Here, the State has failed to establish that S --
16:20:08 excuse me -- SB 8 will actually further any of its asserted
16:20:12 interest; and, therefore, in light of the concrete burdens that
16:20:15 we've established, the burdens are in fact undue.
16:20:19 One fact that is uncontested in this case is that,
16:20:23 during a D&E, the fetus, which is alive at the beginning of the
16:20:29 evacuation process, is removed in pieces from the uterus. The
16:20:33 same is true for suction aspiration procedures. There is no
16:20:37 rational basis on which to ban the most common method of
16:20:41 second-trimester abortion and leave an equally destructive
16:20:45 procedure unregulated, except that SB 8 is part of a larger
16:20:49 plan to restrict abortion by banning it one procedure at a
16:20:53 time. It is irrational to suggest that puncturing the heart of
16:20:58 the fetus and injecting a chemical demise is more humane than
16:21:03 the D&E procedure.
16:21:04 Nor can the Act be justified by an alleged interest
16:21:08 in fetal pain. The evidence presented by Dr. Ralston, an MFM
16:21:14 who is an expert in fetal development, establishes that the
16:21:17 fetus cannot feel pain in utero. Further, prior to 24 weeks,
16:21:22 the fetus does not have the anatomical structures necessary to
16:21:25 feel pain because, prior to that time, the cortex is not
16:21:30 developed.

16:21:31 Dr. Ralston's opinions are supported by every major
16:21:34 medical organization that has spoken on this issue, concluding
16:21:38 that fetal pain is not possible before 24 weeks. This is in
16:21:42 contrast to the speculative opinions of Dr. Malloy which have
16:21:47 been rejected by major medical organizations.
16:21:49 THE COURT: So both sides have put on an impressive
16:21:53 array of expert witness. The Court, as a general proposition,
16:22:00 has found the experts' knowledgeable and credible on both
16:22:03 sides. They reach opposite conclusions. How can this Court
16:22:10 possibly determine which experts are correct and make a medical
16:22:16 evaluation in weighing to determine who is correct when I'm
16:22:23 faced with that type of evidence?
16:22:30 MS. CREPPS: Your Honor, I think there are several
16:22:32 key factors that you can consider in weighing the evidence in
16:22:35 this case expert against expert. For example, there are
16:22:40 experts who have testified from their own personal experience
16:22:44 and their review of the literature, experts whose job it is do
16:22:50 keep up with the developments in the field, such as
16:22:52 Dr. Nichols. So I think one factor is, is this person
16:22:57 testifying from personal experience?
16:23:00 I think other factors include where the weight of the
16:23:09 scientific authority lies. As an example, Dr. Ralston versus
16:23:14 Dr. Malloy -- Dr. Ralston provided not only convincing
16:23:18 opinions, but explained why Dr. Mallow's opinions are outliers.
16:23:23 So I think there are factors throughout the case that

16:23:26 the Court can consider. I don't envy you the job, but I do
16:23:28 believe not only that there are factors like that that you can
16:23:32 consider, but that the Supreme Court has directed you as the
16:23:35 finder of fact to make those kinds of determinations based on
16:23:40 the entire record.
16:23:42 And I feel, obviously, that the plaintiffs have put
16:23:46 on more persuasive evidence by putting on people who are
16:23:51 actually providing the services and who can explain in detail
16:23:56 how it will impact their patients and also reflect, for
16:24:00 example, what the current standard of care is in the
16:24:03 United States, which is that digoxin is not being used prior to
16:24:07 18 weeks; that D&E procedures are the most common and safest
16:24:14 procedure after approximately 15 weeks.
16:24:21 The State also asserts it's -- that it is advancing
16:24:26 an interest in ethics and the integrity of the medical
16:24:30 profession. Our evidence demonstrates, however, that, far from
16:24:34 advancing medical ethics, SB 8 undermines the foundational
16:24:38 ethical principles that guide physicians in the practice of
16:24:45 medicine.
16:24:46 Dr. Caughey mentioned beneficence and patient
16:24:53 autonomy as two of those principles which he has concerns about
16:24:56 as a result of enforcement of SB 8. And here again I think we
16:25:01 see the experience of providers who are actually providing
16:25:04 those services and who have experienced their concerns about
16:25:10 untenable choices that they would be forced to make should SB 8

take effect, forcing a physician to sacrifice patient safety or denying access to the services.

And so what we have, I think, is a combination of experience, concrete examples, and, to some extent, common sense as to this is how we do it now, this is what would send us to jail, and how do we -- how do we try and maintain our ability to provide services?

The State's only evidence in support of its assertion that the Act advances an interest in medical ethics came from Dr. Curlin, who did not ground his opinions in current medical ethics, but, rather, undefined norms and assumptions about societal views on D&E procedures. His lack of reliance on any identifiable source in modern medicine to support his views are not surprising, given the fact that he believes that any physician who performs an abortion is acting unethically, contrary to the views of the American Medical Association and ACOG. He did --

THE COURT: But with the facts presented to this Court, basically -- "facts" was the wrong word -- but existing Supreme Court precedent and Senate Bill 8, and does Senate Bill 8 pass muster under existing Supreme Court precedent, does -- or do ethical considerations even play a part in this Court's determination based on the record that's before me?

MS. CREPPS: I would say under the *Stenberg* opinion, no. However, I believe the State is going to argue that the

16:26:52 *Gonzales* opinion opened the door for that consideration. And
16:26:59 so, while I think the *Stenberg* opinion is binding precedent, I
16:27:03 believe that under the analysis in *Whole Woman's Health v.*
16:27:08 *Hellerstedt*, the State would still have to prove that SB 8
16:27:16 actually furthers this interest in order to even get the
16:27:23 interest on the scale against the burdens that we've
16:27:25 established. And I think that they have failed to do that on
16:27:31 any of the asserted interests that I expect that they'll raise.
16:27:36 Your Honor I think I've covered most of what I had to
16:27:38 say this round, if I could reserve some time, but I'm happy to
16:27:42 answer any additional questions.
16:27:44 THE COURT: No. You may.
16:27:45 MS. CREPPS: Thank you.
16:27:45 THE COURT: And you have about 15 minutes left.
16:27:48 MS. CREPPS: Thank you.
16:27:49 **DEFENDANTS' CLOSING ARGUMENT**
16:27:49 MR. MCCARTY: Good afternoon, Your Honor.
16:27:50 Darren McCarty for Attorney General Ken Paxton.
16:27:54 Your Honor, before I get into the salient facts of
16:27:57 this case, I'd like to start with what I believe is the general
16:28:00 legal framework that this Court has to use to decide this case.
16:28:05 And it really all comes from *Gonzales v. Carhart*. First,
16:28:12 Your Honor -- and these are the three essential holdings of *Roe*
16:28:16 that have stood up for the past several decades.
16:28:19 One is a woman has a right to choose abortion before

16:28:22 viability without undue interference from the State. Two, the
16:28:25 State has the power to restrict abortions after fetal viability
16:28:31 so long as exceptions for the mother's life and health. And,
16:28:34 finally and importantly, the state has legitimate interest from
16:28:39 the outside of pregnancy in protecting the health of a woman
16:28:42 and the life of a fetus that may become a child.
16:28:49 *Gonzales*, expanding on that, Your Honor, said two
16:28:51 things: One, the government may use its voice and its
16:28:54 regulatory authority to show its profound respect for the life
16:28:58 within the woman; and, two, importantly where there is a
16:29:02 rational basis and no undue burden, the State may use its
16:29:06 regulatory power to, one, bar certain procedures or, two,
16:29:12 substitute others, all in furtherance of its legitimate
16:29:16 interest in regulating the medical profession in order to
16:29:21 promote respect for life, including the life of the unborn.
16:29:25 THE COURT: At the time of *Gonzales* the Supreme
16:29:29 Court, by virtue out of its earlier opinion in *Stenberg*, had
16:29:33 the D&E procedure before it.
16:29:34 MR. MCCARTY: Correct.
16:29:35 THE COURT: All right. Is *Gonzales* a validation of
16:29:44 the D&E procedure?
16:29:47 MR. MCCARTY: I would say completely the opposite.
16:29:50 THE COURT: All right.
16:29:51 MR. MCCARTY: The Supreme Court's description of the
16:29:53 D&E procedure was not charitable, to say the least. And, in

16:29:58 fact, the Supreme Court said the D&E procedure itself is laden
16:30:05 with the power to devalue human life. The issue before the
16:30:13 Supreme Court was a ban on partial-birth abortion. It wasn't a
16:30:20 ban on the D&E procedure; and, fortunately, this Court today
16:30:27 doesn't have to address a ban on the D&E procedure either.
16:30:32 What the State of Texas must show and what the State
16:30:36 of Texas can show is that, first, it has a legitimate interest
16:30:41 in banning one thing, the living dismemberment of an unborn
16:30:47 child. At the TRO proceeding, Your Honor may recall that I
16:30:53 read from *Gonzales* and the description in *Gonzales* of the D&E
16:30:58 procedure. I don't need to do that anymore because the
16:31:02 evidence in this case has graphically depicted what the D&E
16:31:07 procedure is.
16:31:09 Plaintiff Drs. Wallace and Kumar described quite well
16:31:14 that the D&E procedure involved opening the cervix of a
16:31:19 pregnant woman, reaching in with grasping forceps, and using
16:31:31 those forceps, Your Honor, to take apart the baby. And I'm
16:31:34 going to refer to two exhibits -- one, Defendants' Exhibit 24.
16:31:38 These are the forceps. They're reached in and they grab a body
16:31:42 part. It might be a finger like mine, except for it will be
16:31:45 about a tenth of the size, and they pull it out.
16:31:49 And what they're doing that to, Your Honor -- this is
16:31:52 the model that we introduced as Defendants' Exhibit 20C -- of a
16:31:58 baby at the gestational age at 20 weeks -- 20 weeks LMP, well
16:32:04 within -- well within the range of standard D&E procedure in

16:32:09 Texas. That's the State's interest, and that's what the State
16:32:14 has demonstrated very clearly it is trying to protect, the
16:32:20 respect for that life within the mother's womb, directly within
16:32:25 the contours of *Gonzales* and to ensure a more humane
16:32:30 termination, which I'm going to get to.
16:32:32 THE COURT: Do you agree with the Plaintiffs'
16:32:34 response to my question, that what this case is about is the
16:32:39 provision of Senate Bill 8 that bars -- apparently bars a D&E
16:32:46 procedure without fetal demise? Is that really what
16:32:48 Senate Bill 8 does?
16:32:50 MR. MCCARTY: Yes. What I would suggest, Your Honor,
16:32:53 is this: What Senate Bill 8 does is it regulates the moment of
16:32:57 death, the moment of fetal termination, and nothing more.
16:33:06 Whether, as Dr. Wallace testified, the lethal act is going to
16:33:10 be, for instance, grabbing the leg and pulling it off the fetus
16:33:16 or whether instead the lethal act is going to be a single
16:33:22 injection or perhaps just a snip of the umbilical cord, that's
16:33:28 what's regulated under Senate Bill 8.
16:33:32 Your Honor, there was some graphic testimony. There
16:33:35 was testimony about taking the fetus apart and part of a face
16:33:40 looking back at the doctor. There was graphic testimony about
16:33:44 part of a chest cavity coming out with one lung attached and a
16:33:50 still-beating heart.
16:33:53 Your Honor, if I could, I would like to show Exhibit
16:33:56 Number 2, which was admitted today. It's the result of a

16:34:05 dismemberment. If you could just blow up 2, the tray itself.

16:34:12 Your Honor, only a little while before that tray

16:34:23 existed, that was a fetus somewhere in the neighborhood of the

16:34:27 size of this one in Exhibit 20C, and that's the result of it.

16:34:33 That's the result of the D&E. And it was done while the fetus

16:34:39 was alive. And, with all due respect to opposing counsel's

16:34:45 description of turning back the clock, I would suggest that the

16:34:49 State of Texas' interest in banning a living dismemberment that

16:34:55 results in that is a sign of a progressive society.

16:34:59 That alone is enough to demonstrate the State's

16:35:09 interests. However, Dr. Malloy provided competent testimony

16:35:13 today, as this Court's recognized, that indicates that there is

16:35:17 a possibility of fetal pain -- of the fetus experiencing pain

16:35:22 at the gestational ages when D&E procedures occur. And, in

16:35:29 fact, that there is no possible way that anyone could disprove

16:35:36 that a fetus experiences pain at those ages.

16:35:40 And, Your Honor, respectfully if there is a 5 percent

16:35:44 chance that Dr. Malloy is correct, that the fetus experiences

16:35:49 pain, or even a 1 percent chance, the State not only has a

16:35:55 legitimate interest, but an overwhelming interest, in ensuring

16:36:00 the humane termination of fetal life.

16:36:09 In fact, Your Honor I would say that the question

16:36:11 before this Court is quite simple, and it is: Can Texas

16:36:17 require that a fully formed and nearly viable unborn child be

16:36:25 accorded a more humane manner of death?

16:36:30 It would be a dark irony, Your Honor, if the same
16:36:33 constitution that required states, correctly so, to provide a
16:36:41 humane execution for those convicted of the most heinous crimes
16:36:49 in our society would be the same constitution that would bar
16:36:52 the State of Texas from banning the living dismemberment of an
16:36:58 unborn child.
16:37:00 Let's talk about what Senate Bill 8 does do and what
16:37:11 Senate Bill 8 doesn't do. First of all, Senate Bill 8 does not
16:37:15 ban second-trimester abortion. Unlike what Plaintiffs
16:37:19 suggested in this case, it does not ban D&E procedures.
16:37:25 Senate Bill 8, as I said before, merely regulates the moment of
16:37:30 death, and it only regulates a small, but important number, of
16:37:37 abortions in Texas.
16:37:40 According to the statistics entered into the record
16:37:44 in this case, Your Honor, in 2015 there were 53,940 abortions
16:37:51 in Texas. There were D&E abortions -- reported D&E abortions
16:37:55 during that year of 4,367, only 8 percent. If we look at 17 to
16:38:06 22 weeks LMP -- and I'll suggest why that number is an
16:38:10 important number in a minute -- that's 1655 abortions, or
16:38:15 3 percent, of all abortions in Texas during that year. And if
16:38:19 we look at 17 weeks LMP -- that's 3 percent. And if we look at
16:38:24 17 weeks LMP, 568 abortions, or roughly 1 percent, of all
16:38:30 abortions in 2015.
16:38:31 It is a very small number of abortions that are
16:38:34 regulated by Senate Bill 8. But, as this Court is now aware,

16:38:38 those are the abortions performed on fetuses in the latest term
16:38:46 that abortions can be performed in Texas. In other words, when
16:38:50 the fetus is approaching viability outside the womb.
16:39:00 Why did I choose 17 weeks LMP? And the reason is
16:39:03 this, Your Honor: We have testimony from Dr. Dermish that she
16:39:05 regularly performs suction abortions, or at least partial
16:39:10 suction abortion, up to 15.6 weeks and she could perform
16:39:14 suction abortions up to 16.6 weeks.
16:39:18 Dr. Chireau provided significant evidence during her
16:39:22 review of various medical and scientific literature that
16:39:27 abortion -- suction abortions could be performed up to 16.6
16:39:32 weeks. And, finally, Dr. Wallace submitted that the national
16:39:37 abortion federation says that abortions can be performed via
16:39:42 suction through the 16th week.
16:39:45 And so then we're left with what happens in week 17
16:39:52 and then 18 through 22. And that's an important question,
16:39:56 Your Honor, because we're really dealing with week 17. As this
16:40:06 Court has heard, 18 weeks, digoxin -- the use of digoxin and
16:40:09 other fetal demise techniques, but primarily digoxin, becomes a
16:40:13 matter of routine for many providers in the state.
16:40:19 First, Your Honor, Southwestern, one of the largest
16:40:23 abortion providers in the state of Texas located in Dallas,
16:40:26 Dr. Wallace's employer, performs digoxin on all D&E procedures
16:40:34 over 20 weeks; Alamo at 18 weeks.
16:40:42 Learning to perform digoxin is not a difficult

16:40:44 procedure. Dr. Dermish here in Austin learned it from a
16:40:50 physician's assistance at Planned Parenthood LA. She watched
16:40:55 it once; she did it. She learned transabdominal injections and
16:41:00 later taught herself transvaginal injections. Dr. Dermish
16:41:06 testified, who's employed by Planned Parenthood here, that any
16:41:09 competent D&E provider could be trained to use digoxin.
16:41:15 Dr. Wallace, of course, at Southwestern in Dallas,
16:41:20 one of the other plaintiffs here, also uses digoxin regularly.
16:41:24 In fact, she's used it by her own estimation almost 500 times
16:41:28 in the last five years. She does it approximately 100 times
16:41:32 per year.
16:41:33 And other plaintiff physicians who have been
16:41:39 witnesses in this case all currently use digoxin --
16:41:42 Drs. Aquino, Lynn, Braid, and Boyd. Dr. Dermish used to do it.
16:41:49 Her clinic doesn't do it as matter of routine any more.
16:41:53 Your Honor, other fetal demise techniques are also
16:41:58 available. There's been a lot of talk about potassium
16:41:59 chloride, and there are studies and you heard Dr. Berry
16:42:04 indicate that potassium chloride can be used either
16:42:09 intrathoracically or intra-abdominally on the fetus to cause
16:42:13 fetal demise; that there's no danger at all when it's done
16:42:17 properly; there's no need for intracardiac potassium chloride
16:42:21 injections; and it works very quickly.
16:42:24 Dr. Nichols, Plaintiffs' expert from Oregon, admitted
16:42:29 that there's no technical difference between performing an

16:42:33 intrafetal digoxin injection and an intrafetal potassium
16:42:37 chloride injection.
16:42:38 Dr. Wallace of Southwestern has used umbilical
16:42:44 transection in the past.
16:42:47 Maybe most importantly here, Your Honor, concerning
16:42:52 the practical effects of using digoxin is the safety of
16:42:55 digoxin. Every patient at Southwestern above 20 weeks and
16:43:06 every patient at Alamo -- two plaintiffs here -- above 18 weeks
16:43:11 have had to sign a consent form concerning the use of digoxin
16:43:18 indicating that digoxin makes the procedure safer and easier.
16:43:24 The old Planned Parenthood Of Greater Texas consent
16:43:29 form, the clinic here, also indicated some clinicians believe
16:43:33 it makes it easier and the studies show it's safe. The
16:43:38 Southwestern consent form, because -- and because this came up
16:43:44 at the end of the day in counsel's argument, I'd would like to
16:43:48 bring that up. Can we bring up DX-30? And if you could blow
16:44:11 that up a little bit? Could you move it down.
16:44:31 Notice under -- notice under bullet point one under
16:44:35 the Southwestern consent form: "Failure to cause fetal demise.
16:44:39 This is unusual." Important point. "We will do an ultrasound
16:44:42 to determine that demise has occurred." And, if it has not, a
16:44:47 second injection may be administered. In other words, every
16:44:51 patient that went to Southwestern was informed beforehand that
16:44:55 they may use a second dosage of digoxin to achieve fetal
16:44:59 demise.

16:44:59 Furthermore, Your Honor, if there's any doubt about
16:45:07 the importance and relevance of those consent forms of this
16:45:10 case, Southwestern made it very clear when, two weeks before
16:45:16 this lawsuit was filed, they changed their consent forms,
16:45:21 according to Dr. Wallace, to make them more readable.
16:45:24 But what they did was they took out language about
16:45:28 the safety and efficacy of digoxin, number one -- not sure how
16:45:35 that made it more readable -- and then they added the term
16:45:39 "digoxin toxicity," which I don't believe is sort of standard
16:45:47 parlance for more people. So I don't think it really was to
16:45:49 make it more readable. I think it was the very real
16:45:52 recognition that the fact that they have been telling their
16:45:55 patients for years that digoxin was safe and effective and
16:46:03 often caused or generally caused fetal demise -- it was unusual
16:46:07 that it didn't -- was a problem when they were going to come
16:46:11 into this court and suggest otherwise.
16:46:13 Digoxin also may have added benefits. Dr. Dermish,
16:46:23 she believes that using digoxin made the procedure easier.
16:46:26 Dr. Wallace, using digoxin makes the D&E procedure easier at
16:46:31 20-plus weeks. She also -- Dr. Wallace acknowledged that when
16:46:36 the procedure is easier, it's also safer. All providers of
16:46:40 Southwestern agree that digoxin makes the procedure easier and
16:46:45 safer.
16:46:45 Dr. Chireau presented countless studies indicating
16:46:52 that digoxin is safe. Dr. Nichols, Plaintiffs' expert,

16:47:00 testified that there had never been a death that he could find
16:47:05 related to the intrafetal or use of digoxin to cause fetal
16:47:10 demise. Never even been a lasting impairment. Not one.
16:47:17 Maybe most telling, Your Honor, is that we introduced
16:47:23 into the record almost five years of abortion complication
16:47:30 forms that clinics across Texas are required to provide to the
16:47:33 State. Not a single one of those abortion complication forms
16:47:38 mention digoxin. It appears, quite convincingly, that in the
16:47:45 last five years there's not even been a single instance of
16:47:51 digoxin causing a complication.
16:47:56 As Dr. Berry testified, digoxin itself is not an
16:48:01 infectious agent. And the best plaintiffs can muster, from
16:48:05 what I can tell, is that there's been no study of the safety of
16:48:12 the use of digoxin for fetal demise in patients at under
16:48:18 18 weeks gestation. But, tellingly, Dr. Nichols on the stand
16:48:24 could not explain -- and I think common sense dictates -- how
16:48:29 digoxin would affect a woman at 18 weeks versus a woman below
16:48:36 18 weeks gestation. The woman doesn't change. The fetus may
16:48:44 grow, but the woman doesn't change.
16:48:47 Efficacy. We heard today during closing argument
16:48:51 about --
16:48:52 THE COURT: Senate Bill 8 does not mandate any
16:48:56 certain type of drug or procedure to result in fetal demise; is
16:49:04 that correct?
16:49:04 MR. MCCARTY: That is correct.

16:49:05 THE COURT: So physicians are free to use digoxin or
16:49:12 potassium chloride or umbilical transection or any, perhaps,
16:49:16 other choices?
16:49:17 MR. MCCARTY: Correct, Your Honor. It's just that
16:49:23 digoxin is highly used in the state, so I think there's been a
16:49:26 lot of focus on it.
16:49:27 Dr. Wallace -- I heard in closing that Dr. Wallace
16:49:32 had talked about a 5- to 10-percent failure rate. That's
16:49:35 absolutely not what the record indicates. Dr. Wallace
16:49:40 indicated that she had a 98- or 99-percent effectiveness rate
16:49:43 for digoxin, in other words, a 1- or 2-percent failure rate --
16:49:47 a doctor who performs almost 100 digoxin injections per year.
16:49:53 Dr. Berry, going to potassium chloride, indicated
16:49:56 that potassium chloride is always effective and it works not
16:50:00 only intracardiac -- through intracardiac administration, but
16:50:05 also intrafetally.
16:50:08 Dr. Chireau's literature indicated almost -- or,
16:50:13 oftentimes, a 100-percent effectiveness rate of digoxin. In
16:50:18 fact, she cited one large study in which over 1600 digoxin
16:50:22 injections have been 100-percent effective.
16:50:31 Your Honor, for the small number of possible
16:50:33 first-time failures to achieve fetal demise, other alternatives
16:50:38 are available: A second injection of digoxin, as Southwestern
16:50:46 already informs their patients. Planned Parenthood Federation
16:50:54 of America medical standards and guidelines, Defendants'

16:50:58 Exhibit 68, expressly permit, as Dr. Dermish acknowledged, a
16:51:02 second dosage of digoxin. KCl, or potassium chloride, can be
16:51:09 administered by either abortion providers or, importantly,
16:51:16 abortion providers, as they already do and as testimony has
16:51:20 been in this case, already refer out from time to time. So in
16:51:26 those very small, limited number of cases where there is an
16:51:31 efficacy problem, those patients can be referred.
16:51:34 Umbilical cord transection, Your Honor, is another
16:51:42 manner of achieving fetal demise, one that Dr. Wallace admitted
16:51:47 that she had employed before when digoxin had failed in her
16:51:51 1- to 2-percent experience.
16:51:54 And, finally, Your Honor, in Senate Bill 8 there is a
16:51:58 medical emergency exception for the health of a mother. And
16:52:07 that's actually somewhat important, Your Honor, because,
16:52:10 notably, in *Gonzales* there was no such health exception at
16:52:14 issue and, yet, the Supreme Court upheld it.
16:52:19 Your Honor, based on that evidence, a facial
16:52:29 challenge to Senate Bill 8 must fail. It's unquestionably
16:52:33 constitutional because it's already in use, it's already
16:52:40 routine, it's already a matter of practice in Texas, and, in
16:52:46 most cases above 18 weeks, actually changes nothing about what
16:52:51 plaintiff providers currently do.
16:52:55 *Gonzales* made it clear that, in the outlier
16:52:59 circumstances -- which have not been defined, by the way, by
16:53:01 Plaintiffs. But in outlier circumstances, where there might be

16:53:05 a narrow set of individuals or circumstances that are
16:53:10 unconstitutionally affected -- again, I would suggest that
16:53:14 there's nothing in the record to suggest that here -- but the
16:53:16 proper challenge is an as-applied challenge.
16:53:20 And an as-applied challenge, under very defined
16:53:23 circumstances, can be brought pre-enforcement. But they've not
16:53:29 done that here. But the facial challenge can't withstand,
16:53:34 Your Honor, when it's clear that, in a number or in a broad set
16:53:38 of circumstances, that it's constitutional and can be
16:53:43 constitutionally applied.
16:53:50 Your Honor, there have been -- the only -- the only
16:53:53 suggestion that I've heard from plaintiffs that somehow digoxin
16:53:58 would be an undue burden was in the 15 to 17.6 range, because
16:54:07 in that range they don't routinely use it anymore.
16:54:12 However, it's clear that injections would not be much
16:54:21 more difficult on the differing sizes of fetuses because they
16:54:26 don't change very much over time -- over that short amount of
16:54:30 time, Your Honor. But, more importantly, Dr. Dermish indicated
16:54:36 that, below 17 weeks, she can use suction. So the question is:
16:54:47 Can a fetus be terminated effectively by a provider already
16:54:52 using digoxin in the 17th week who is already doing it in the
16:54:55 18th week? And I think the answer is clearly, yes, they can do
16:54:59 that. They have the skill set to do it.
16:55:01 THE COURT: Can the State's imposing of an additional
16:55:06 requirement on a type of abortion that has consistently been

16:55:10 used and held to be safe constitute an undue burden?

16:55:15 MR. MCCARTY: I don't believe it can, Your Honor. As
16:55:20 *Gonzales* said, in referring to, *Casey*, the plurality opinion
16:55:23 indicated that, quote, the fact that a law which serves a valid
16:55:28 purpose, one not designed to strike at the right itself, has
16:55:32 the incidental effect of making it more difficult or more
16:55:35 expensive to procure an abortion cannot be enough to invalidate
16:55:42 it.

16:55:51 Your Honor, we also heard argument concerning an
16:55:54 economic burden. We heard two arguments about the economic
16:55:58 burden. First we heard an argument that it would make it more
16:56:01 expensive for clinics. I would suggest, Your Honor, there is
16:56:06 simply no evidence in the record of that.

16:56:09 The other economic burden argument that we heard was
16:56:13 that it would somehow be an undue burden on some women, and I
16:56:18 suspect that that argument -- that argument's genesis is in
16:56:24 Dr. Katz's opinion. But charitably, Your Honor, Dr. Katz
16:56:28 didn't answer that question.

16:56:29 She read some materials, mostly related to other
16:56:33 states, she looked at some census information from Texas, and
16:56:37 basically opined that maybe under certain circumstances,
16:56:42 sometimes, somewhere, some woman might be affected. She
16:56:47 didn't -- she did not engage in any proper methodology that
16:56:51 would produce an answer, nor could she give an answer, about
16:56:55 how many, where, under what circumstances any woman in Texas

16:57:00 would be unduly burdened by Senate Bill 8.

16:57:03 Furthermore, Your Honor, there is evidence in the
16:57:15 record that digoxin injections may in fact work in less than
16:57:19 24 hours. In the Planned Parenthood guidelines -- medical
16:57:27 standards and guidelines, they indicate that intrafetal digoxin
16:57:31 works within one to two hours. Potassium chloride injections,
16:57:35 of course, work within the same day and maybe within minutes.
16:57:39 Umbilical cord transaction works in a matter of minutes. It is
16:57:45 not a certainty -- and, importantly, Dr. Wallace, under 18
16:57:51 weeks, has approximately half of her abortion procedures, her
16:57:59 D&E abortion procedures, occur over a two-day period anyway.

16:58:08 And I think, Your Honor, there are some notable
16:58:10 similarities between the partial-birth abortion ban that was at
16:58:14 issue in *Gonzales* and Senate Bill 8. First, they both applied
16:58:21 to living fetuses, and they both applied to pre-viability
16:58:26 fetuses. And, as I mentioned earlier, Your Honor, there was
16:58:30 not a health exception in the partial-birth abortion ban upheld
16:58:35 by *Gonzales*, but there is here.

16:58:37 Finally, Your Honor, I would suggest that, if
16:58:45 the Court finds in some circumstances, perhaps, that at a
16:58:52 certain gestational age that a woman is somehow burdened by
16:58:56 that, the courts have been quite clear that, only in those
16:59:02 particular circumstances should the law be found
16:59:07 unconstitutional.

16:59:09 And, in fact, Your Honor, the court has held very

16:59:16 plainly that those -- that those circumstances should be
16:59:23 respected and narrowly defined. Statutes should be
16:59:27 construed -- this is *U.S. v. Vuitch*. I don't know how to
16:59:30 pronounce that. V-u-i-t-c-h. Statutes should be construed
16:59:34 whenever possible so as to uphold their constitutionality. And
16:59:40 *Gonzales* stated, again, the elementary rule is that every
16:59:45 reasonable construction must be resorted to in order to save a
16:59:50 statute from unconstitutionality.
17:00:00 In summarizing a couple of cases, Your Honor,
17:00:02 including *Gonzales* and *Ayotte v. Planned Parenthood*, which is
17:00:07 at 546 U.S. 320, the Supreme Court has directed lower courts to
17:00:13 enjoin only the unconstitutional portion or unconstitutional
17:00:17 applications of the law, allowing the rest to take effect. To
17:00:21 the extent there are constitutional questions regarding the
17:00:21 remaining applications in the statute, those questions can be
17:00:25 addressed in as-applied lawsuits.
17:00:39 I would suggest, Your Honor, that the State of Texas
17:00:41 has demonstrated quite clearly that it has a legitimate
17:00:44 interest and has exercised its regulatory authority
17:00:49 appropriately to regulate the medical profession to arrive at a
17:00:53 substitute method of fetal death as opposed to tearing a fetus
17:00:57 apart -- only the moment of death has it regulated. And that
17:01:01 is an appropriate use of its power, assuming that it doesn't
17:01:06 create an undue burden. And the plaintiffs have simply not
17:01:10 created a record showing an undue burden in this case.

17:01:19 If you don't have any other questions, I'll sit down.

17:01:23 THE COURT: No further questions.

17:01:24 MR. MCCARTY: Thank you.

17:01:25 THE COURT: Ms. Crepps, you have 15 minutes.

17:01:28 **PLAINTIFFS' REBUTTAL ARGUMENT**

17:01:28 MS. CREPPS: Thank you, Your Honor. I will try not to use all of that.

17:01:32 I'd like to respond to, first, the argument that the *Gonzales* case is controlling of the issues in this case. And I think that that's just plainly incorrect for two reasons.

17:01:52 THE COURT: Pardon me?

17:01:53 MS. CREPPS: I think that that assertion is plainly incorrect, actually, for three reasons. One is the *Stenberg* case, which was much more on-point to the facts here and involved a ban on D&E procedures.

17:02:07 In *Gonzales* -- the second reason, in *Gonzales* the Court relied on the availability of standard D&E procedures to find that the more narrow ban on a procedure which was not the most common, the intact D&X, was constitutional.

17:02:32 And, finally, the idea that the *Gonzales* case is controlling and, specifically, Mr. McCarty's citation to where the State has a rational basis to act, that language from *Gonzales* is -- is completely incorrect under the *Whole Woman's Health v. Hellerstedt* decision.

17:02:58 In that case, as Your Honor knows, the Fifth Circuit

17:03:01 applied that language where the State has a rational basis to
17:03:06 act to House Bill 2. And what the Court in *Whole Woman's*
17:03:10 *Health* said was that was incorrect, that when the courts are
17:03:16 considering restrictions on abortion, a more robust
17:03:22 constitutional test is applicable.
17:03:24 And they called out that very specific language about
17:03:28 where the State has a rational basis to act. And they said,
17:03:31 no, there is a higher burden here. And the Court went on to
17:03:34 explain that that burden on the State is that they must
17:03:39 actually establish the benefits of a law rather than simply
17:03:43 asserting that it might be the case.
17:03:45 So, for those reasons, *Gonzales* is -- is not
17:03:49 controlling, except to the extent that it affirmed that a ban
17:03:56 on standard D&E would be constitutionally impermissible, as it
17:04:02 did with its discussion comparing the standard D&E to the
17:04:07 banned procedure.
17:04:11 THE COURT: Mr. McCarty argues that Senate Bill 8
17:04:16 does not place a ban on D&E. If he is correct, does that mean
17:04:23 that *Stenberg* has no application to the case at hand?
17:04:27 MS. CREPPS: No, Your Honor, because I think that the
17:04:31 *Stenberg* Court had before it a ban on standard D&E procedures
17:04:40 and, at the same time, acknowledged the availability of demise
17:04:43 procedures. And the Court still characterized the statute at
17:04:47 issue as a ban on D&E and found that that imposed an undue
17:04:51 burden. So I think that this statute, although it uses more

graphic language or different language, has the same effect as the statute in *Stenberg*. And so it's appropriately characterized as a ban under the *Stenberg* analysis. This isn't just a semantic back and forth.

THE COURT: Let me make sure I understood what you just said, because I want to pay attention to it. Are you saying that, under a *Stenberg* analysis, Senate Bill 8 constitutes a ban on D&E procedures?

MS. CREPPS: Yes, Your Honor.

THE COURT: Okay.

MS. CREPPS: I'd like to address briefly the argument that fetal pain -- that the testimony as to fetal pain is a justification for the ban. The State has a burden of establishing that the law actually furthers its asserted interests. Dr. Malloy's speculative testimony about fetal pain prior to 24 weeks doesn't meet that burden. But Dr. Ralston's testimony shows that there is zero percent chance of fetal pain in utero. And so even though Dr. Malloy's testimony doesn't meet the State's burden, our rebuttal evidence puts that completely to rest.

The State has placed a lot of emphasis on the consent forms for Alamo and for Southwestern and specifically on the language that digoxin makes the procedure safer and easier. I think it's very important to remember that digoxin -- at Alamo digoxin is only used at 18 weeks and above and, at

17:06:57 Southwestern, digoxin is only used at 20 weeks and above. And
17:07:00 the physicians who testified about this were very clear that
17:07:03 they did not think that the procedures provided any benefits
17:07:11 lower than the gestational ages at which they're provided at
17:07:15 those facilities. And so it is a huge leap to say that,
17:07:18 because some physicians have identified a benefit at those
17:07:22 later gestational ages, that it therefore is permissible to
17:07:27 require it at lower gestational ages.
17:07:33 And I would like to address -- I feel very strongly
17:07:37 that I need to address the suggestion that Dr. Wallace was
17:07:40 lying on the stand about the reasons why Southwestern changed
17:07:44 its consent forms.
17:07:45 She didn't come to court and hide the fact that she
17:07:53 does digoxin at 20 weeks and that she believes, in her medical
17:07:57 opinion, an opinion which is shared by physicians at
17:07:59 Southwestern, that it makes the procedure safer and easier.
17:08:03 What she did testify to, and very credibly, is that the process
17:08:08 by which they changed their consent forms started well before
17:08:12 this litigation was on the horizon and that the two things were
17:08:17 completely unrelated.
17:08:24 Finally, Your Honor, I would just like to address two
17:08:27 arguments that I think are related, which is the suggestion
17:08:35 that the overall number of abortions affected by Senate Bill 8
17:08:44 is a small number and that the plaintiffs have failed to make
17:08:46 out a case for facial remedy with our evidence.

17:08:50 So, first of all, the number of abortions relative --
17:08:57 the number of abortions affected by SB 8 relative to the total
17:09:01 number of abortions in Texas is irrelevant. As the Supreme
17:09:04 Court made clear in *Casey*, the focus for the large fraction
17:09:10 test is to look at the women for whom the restriction is
17:09:15 actually a burden.
17:09:16 And so, in *Casey*, where the Court had in front of it
17:09:21 a spousal notification requirement, it found that the -- that
17:09:27 even though the percentage of women who were affected by the
17:09:31 spousal notification requirement was only 1 percent, that
17:09:37 requirement was still an undue burden and the Court gave as a
17:09:42 remedy for that constitutional violation facial relief.
17:09:46 In the *Gonzales* case the Court was looking at a very
17:09:55 different issue when it denied facial relief. It was looking
17:09:59 at whether or not the law required a health exception. And
17:10:03 there the Court said, if the challengers can come in with
17:10:07 specific situations in which a health exception would have been
17:10:12 necessary, those should be brought as an as-applied challenge
17:10:17 rather than facial. But here -- and in the *Stenberg* case, I
17:10:22 would also point out that the Court granted facial relief.
17:10:25 Here the ban on D&E procedures will affect all women
17:10:31 seeking those procedures -- not just women before 18 weeks, all
17:10:35 women -- because the ban requires physicians to ensure fetal
17:10:40 demise in every single case. And so it's not as if the
17:10:47 physicians can find a way to safely continue to provide

those -- those procedures. They must figure out a way to do it in every case, which means every single D&E procedure. And, again, of course, for all women, if the procedure fails, it's an additional trip -- for all women under 18 weeks, it's an additional trip. Most importantly, for all women it's an invasive medical procedure that is not medically necessary. So, for those reasons, facial relief is the proper relief here.

Your Honor, I would also note that the federal district court in Alabama in a case that we have cited in our previous briefing as a preliminary injunction, analyzing a similar law and looking at a comparable fact record, concluded just two weeks ago that the law's burdens outweigh its benefits and issued a permanent injunction against the act. We will include citation to that in our supplemental findings. If you'd like, I can give it to you now. It's the *West Alabama Women's Center v. Miller*, and the cite is 2017 WL 4843230.

We think similar relief, permanent injunctive relief, and a declaration that the law is unconstitutional is also warranted here, and we would ask Your Honor to enter that relief.

If you have no other questions, I'm finished.

THE COURT: Thank you. I will compliment both of you for well-arguing your positions. Neither one of you made this case any easier for the Court. I will tell you that.

Before we leave today, Mr. Stephens, do we want to

17:12:48 talk about the exhibits?
17:12:51 MR. STEPHENS: I do, Your Honor.
17:12:52 THE COURT: But Mr. Hilton's going to do it? Okay.
17:12:55 I was uncertain who was the champion.
17:13:00 MS. CREPPS: Who gets the last word?
17:13:00 MR. HILTON: I'll take the last word, Your Honor.
17:13:02 we've reached an agreement on everything, and I'll just tell
17:13:06 you what we've agreed. Fifty-six and 64 you've ruled on.
17:13:10 Sixty-five will come in unredacted. Seventy-six, 78, 87, 88,
17:13:15 89, 91 and 97 will come in with limited redactions.
17:13:21 And just so that I'm clear, 8 will have a redacted
17:13:24 version for public filing, but there will be an unredacted
17:13:28 version under seal, and 13 will be entirely under seal.
17:13:33 THE COURT: Is that correct?
17:13:35 MS. COHEN: Yes. That's correct, Your Honor.
17:13:36 MR. LAWRENCE: I'm told that's correct, Your Honor.
17:13:39 THE COURT: So, with that agreement, does that moot
17:14:11 the State's original motion with regard to redacting exhibits?
17:14:16 MR. MCCARTY: Yes, Your Honor.
17:14:18 THE COURT: All right. Now, I have just been handed
17:14:21 a nonparty's emergency motion for protective order to seal
17:14:26 Defendants' Exhibits 68 and 69, urged on behalf of nonparty
17:14:41 Planned Parenthood Federation of America, represented by
17:14:47 Mr. Patrick G. O'Brien of the Akin Gump firm in Dallas. Is
17:14:52 Mr. O'Brien present?

(No response)

THE COURT: Apparently not. Anyone present for the nonparty Planned Parenthood Federation of America?

(No response)

THE COURT: All right. Let me have your positions on Defendants' Exhibits 68 and 69.

MR. MCCARTY: Well, Your Honor, they were produced by Planned Parenthood Federation of America pursuant to a third-party subpoena in this case. And, as Your Honor understands, there is very high burden to redact or seal documents from the public record that were used in open court and, of course, those have been used in open court. And, Your Honor, when they were produced to us, there were some redactions already included on those exhibits.

And so, Your Honor, we would suggest that those documents, without understanding certainly their position, but it's not clear to us why that would overcome the presumption of open courts.

THE COURT: Ms. Duane? Did I get that right?

MS. COHEN: Melissa Cohen.

THE COURT: Cohen.

MS. COHEN: It's okay. There's a lot of us.

THE COURT: And now you-all are going to leave, and I'll never have a chance to remember your names.

MS. COHEN: Your Honor, the plaintiffs do not oppose

17:16:17 the third-party motion. My understanding is that -- it came in
17:16:23 while we were in court today, so I haven't had a chance to
17:16:26 review it that closely. But my understanding is it's similar
17:16:28 concerns to the two documents that you had ruled could be more
17:16:34 further redacted for Planned Parenthood of Greater Texas,
17:16:39 similar issues there. So Plaintiffs would not oppose the
17:16:42 third-party motion.
17:16:44 THE COURT: All right. Here's what I'm going to do:
17:16:49 I have reviewed this motion, and I understand it. I want to
17:16:51 study it some more. I understand the situation. You need not
17:16:55 respond to it. I'm not going to wait a week for responses.
17:16:58 I've heard your responses to it, and I'm just going to review
17:17:03 it and rule on it as quickly as possible.
17:17:07 All right. Are there any other outstanding matters
17:17:10 we ought to take up before we recess and before I start
17:17:17 studying this case?
17:17:19 MR. LAWRENCE: One thing, Your Honor. It's agreed
17:17:22 upon, but we sent -- we'll be sending to Ms. Oakes redacted
17:17:26 resumes and you'll have the thumb drive tomorrow morning. But
17:17:31 that's being prepared on a thumb drive and sent to --
17:17:34 THE COURT: Well, when she gets that, she may on her
17:17:37 own contact each side and make sure that the record is the way
17:17:42 you-all have agreed upon it. And, if anybody wants to come
17:17:46 over here and check and make sure -- because we submit all this
17:17:50 stuff electronically now, so it's not as easy as it used to be,

17:17:56 at least for people like me. So you don't have to contact me
17:17:59 before you contact my staff to look at the record and make sure
17:18:02 the record is in the shape that both of you want it.
17:18:05 MR. LAWRENCE: And included on that thumb drive,
17:18:08 Your Honor, will be some documents that we did not submit in
17:18:11 electronic form. They were marked for identification and the
17:18:14 proffer. So documents in the end, just so you have a PDF of
17:18:18 them.
17:18:19 MR. STEPHENS: Can we get a ...
17:18:19 MR. LAWRENCE: Yeah. I'll give you copies of them as
17:18:21 well, but they're the same ones that were paper copies.
17:18:23 THE COURT: Well, make sure that the defendants get
17:18:27 an exact duplicate of the thumb drive that you submit to the
17:18:32 Court.
17:18:33 MR. LAWRENCE: We'll send them the same PDFs,
17:18:36 Your Honor.
17:18:36 THE COURT: And, if you can get it worked out, get it
17:18:38 worked out. If there's a problem, then let Ms. Baffes know and
17:18:40 we can set a conference call or do whatever we're going to do
17:18:44 that way.
17:18:46 Anything further from the plaintiffs, Mr. Lawrence?
17:18:49 MR. LAWRENCE: Nothing, Your Honor.
17:18:53 THE COURT: Anything further from the defendants,
17:18:53 Mr. McCarty?
17:18:54 MR. MCCARTY: No, Your Honor.

17:18:54 THE COURT: All right. I'm going to say again, these
17:18:57 cases are always highly politically and publicly charged. They
17:19:05 expose a lot of emotion from people, goodwill on both sides.
17:19:09 They are hard cases for the lawyers to try. They are hard
17:19:12 cases for the Court to consider.
17:19:18 I say this sincerely: Both sides have done an
17:19:22 admirable job of trying this case over the last five days,
17:19:26 which is not to say, under the pressure of trying a lawsuit, we
17:19:29 haven't had our moments. But that's the way it works. It's
17:19:36 the way it works in all lawsuits. It's the way it particularly
17:19:41 works in lawsuits of this magnitude.
17:19:44 And I say this primarily for the benefit of the
17:19:47 public that has watched this case over this week: This was a
17:19:51 very well-tried case. The court now has the burden of sorting
17:19:57 it out, which is not an easy burden, but will get to it.
17:20:02 So thank you again, and the court's in recess.
17:20:05 (End of transcript)

UNITED STATES DISTRICT COURT)

WESTERN DISTRICT OF TEXAS)

I, Arlinda Rodriguez, Official Court Reporter, United States District Court, Western District of Texas, do certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

I certify that the transcript fees and format comply with those prescribed by the Court and Judicial Conference of the United States.

WITNESS MY OFFICIAL HAND this the 12th day of November 2017.

/S/ Arlinda Rodriguez
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