



CSU
College of Law Library

10-20-2023

Transcript: The Future of IVF Post Dobbs

Rebecca Feinberg
Touro University

Follow this and additional works at: <https://engagedscholarship.csuohio.edu/jlh>



Part of the [Health Law and Policy Commons](#), [Science and Technology Law Commons](#), and the [State and Local Government Law Commons](#)

[How does access to this work benefit you? Let us know!](#)

Recommended Citation

Rebecca Feinberg, *Transcript: The Future of IVF Post Dobbs*, 37 J.L. & Health 35 (2023)
available at <https://engagedscholarship.csuohio.edu/jlh/vol37/iss1/6>

This Article is brought to you for free and open access by the Journals at EngagedScholarship@CSU. It has been accepted for inclusion in Journal of Law and Health by an authorized editor of EngagedScholarship@CSU. For more information, please contact library.es@csuohio.edu.

TRANSCRIPT: THE FUTURE OF IVF POST *DOBBS*

Presented By: Rebecca Feinberg, JD, MBE, MS¹

The Journal of Law & Health's Spring Symposium
HEALTHCARE AND PRIVACY LAW CONSEQUENCES FOLLOWING *DOBBS*

CLEVELAND STATE UNIVERSITY COLLEGE OF LAW
FRIDAY, FEBRUARY 17, 2023

¹ Associate Professor of Law, Jacob D. Fuchsberg Law Center and Distinguished Chair in Health Law, Bioethics and Policy, Touro University.

The following is a transcription from The Healthcare and Privacy Law Consequences Following Dobbs presented at Cleveland State University College of Law by The Journal of Law & Health on Friday, February 17, 2023. This transcript has been lightly edited for clarity and to reflect updates in the relevant law since the time of transcription.

Rebecca Feinberg:

I am deeply honored to be amongst such an esteemed group of colleagues presenting here today. Given the prior presentations, I will skip a significant amount of the foundational material covered in my colleagues' presentations.

I wish to clarify some terminology before we start. When I speak about abortion, I am speaking from the perspective that abortion is health care and that the only just way to provide that health care is to have equitable access for all. I also want to clarify two pieces of additional terminology. The first is the word woman. When using the term woman or women, I am referring to anyone who possesses a uterus or the capacity to gestate a pregnancy. The second terms are embryo and fetus. Colloquially, we refer to embryo as the cluster of cells that will implant into the uterus and fetus as anything growing in the uterus. Medically, we use the term embryo until the ninth week of gestation and at the ninth week we transition to referring to a fetus. Additionally, I have no disclosures and no conflicts of interest.

The Supreme Court decision that secured the right to abortion was *Roe v. Wade*, which was decided in 1973.² This case established nearly fifty years of precedent founded in privacy rights. It is important to understand the right to abortion is not written into the Constitution, nor is the right to privacy. The right to privacy is found in the Fourth, Ninth, and Fourteenth Amendments. The decision in *Dobbs v. Jackson Women's Health Organization* overturns the fifty years of precedent established in *Roe* in a unique way.³ This is the one and only time that the Supreme Court has overturned precedent to further restrict rights. Every other time the Supreme Court has overturned precedent, it has expanded access or rights. It is also key to remember that in the *Dobbs* holding, Justice Alito justifies the overturning of *Roe* because abortion is not part of the, "history and tradition" of the United States.⁴ This is important in the

² *Roe v. Wade*, 410 U.S. 113 (1973).

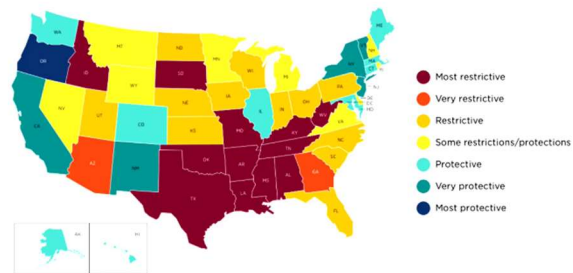
³ *Dobbs v. Jackson Women's Health Org.*, 142 S. Ct. 2228 (2022).

⁴ *Id.* at 2283.

context of in vitro fertilization (IVF) because IVF post-dates abortion. *Roe v. Wade* secured the right to abortion in 1973 and the first IVF baby was born in 1978.

Under the Court's ruling in *Dobbs*, abortion is returned to the individual purview of each state. This map shows us the current lay of the land based on individual states' abortion laws. Not surprisingly, conservative states tend to move towards more restrictive abortion laws and the liberal states tend to move towards more permissive abortion laws. The map you see on this slide, produced by the Guttmacher Institute, was updated yesterday.⁵ What you see here in the dark red clusters are the most restrictive states and the dark blue are the least restrictive states. There are twelve states in the dark red and only one in the dark blue. Overall, countrywide, twenty-six states have restrictive laws, fifteen have protective laws, and nine have a combination of quasi-neutral laws. Again, this map is incredibly dynamic because many states are actively legislating and currently hearing court cases on the issue of abortion.

The Guttmacher Institute
Interactive Map:
US Abortion Policies and Access After Roe



State decisions on abortion come from all different versions of lawmaking. Accordingly, we are seeing legislation, voter propositions, and judge-made law. In one state and potentially a second, we already see changes to state constitutions. We do have the expectation that this map is going to get progressively more orange and red as time continues.

With that understanding of the national perspective, I want to give an Ohio perspective since we are here in Cleveland. We know that currently Ohio restricts abortion after twenty-one weeks and six days. After twenty-two weeks of gestation, an abortion may only be performed if the pregnancy poses a direct risk to the woman's life or risk of serious physical health deficit exists. Ohio also has a 24-hour waiting period, meaning a woman must come in, have an in-person visit and wait a minimum of 24 hours before receiving the abortion.⁶ Medicaid does not cover abortion in Ohio.

⁵ *Interactive Map: US Abortion Policies and Access After Roe*, Guttmacher Institute, <https://states.guttmacher.org/policies/> (last visited Sept. 15, 2023).

⁶ OHIO REV. CODE ANN. § 2919.12 (2023).

Abortion is a physician-only procedure. In other words, neither allied health professionals nor midwives can provide abortion services. This includes both surgical and pharmaceutical interventions.

The prior speakers addressed a number of Ohio specific laws. They spoke at length about Bill 23, the six-week heartbeat ban. I am going to emphasize the biologic implications of this again. You count a pregnancy from the first day of the last menstrual cycle. A woman's last menstrual cycle starts roughly two weeks before she ovulates. If she ovulates on time and sperm is introduced at the appropriate time, the sperm and egg can meet at the top of the fallopian tube. Once the sperm and egg join, it takes approximately five days for this combination to float down the fallopian tube and embed in the uterine wall. It takes another five to seven days from implant until the woman begins to have hormone changes. When added up, it is three and a half to four weeks before a woman can even begin to identify with a urine test that she is pregnant. This means that a six-week ban is, in reality, a two-week ban. If you are the absolute most sensitive and can absolutely recognize that you are pregnant at the earliest possible time, then you have a maximum of two weeks to identify the pregnancy, make the decision to terminate and seek termination services. It takes an incredibly empowered person both to recognize she is pregnant right at that four-week mark and get care in that limited period of time.

Judge Barrett of the Southern District of US Federal Court had originally granted the six-week heartbeat restriction based on Governor DeWine's request. Now the ban has been rescinded. We have the expectation that this ban will be readdressed multiple times in the near future.

There are a couple of other laws in Ohio to be aware of. First, we will discuss the Lebanon abortion ban.⁷ I found this one particularly interesting because it is purely political. It is an ordinance that states abortion cannot be performed within the city limits of Lebanon, Ohio. This is particularly interesting because within the city limits of Lebanon there is no abortion provider nor an abortion clinic. What is most frightening in this ordinance is that they criminalize speech about abortion and about aiding and abetting abortion. There is a lawsuit from the National Association of Social Workers and the Ohio Abortion Fund. They have won their suit which set aside the Lebanon abortion ban.

⁷ LEBANON, OH. CODE OF ORDINANCES §§ 509.09-.10 (2021).

The next Ohio specific legislation involves TRAP laws. TRAP stands for Targeted Restriction on Abortion Providers. It is important to know that these restrict the provider because TRAP laws target how the Department of Health can give and revoke certification for ambulatory surgical licenses. Since most abortions are performed in ambulatory surgical clinics, these laws significantly affect the provision of abortion care. The judge has granted the second preliminary injunction to await final judgment in the case.

Another piece of Ohio specific legislation is the fetal tissue disposal ban that requires all fetal tissue that is the remains of an abortion be either cremated or buried.⁸ The penalties for not complying are criminal. It is currently blocked until the court trial ends, but it has the potential to create a lot of concern for practitioners because it has criminal ramifications. Also, the logistics of tissue disposal may be prohibitive if this law takes effect.

Ohio has a D&E ban; D&E stands for Dilation and Evacuation. This is the medical name of the surgical intervention for a second trimester abortion. This ban was previously blocked but, with the ruling in *Dobbs*, it has been reenacted here in Ohio.

SB 214 is an Ohio law that is going to affect our conversation about IVF. It is a Down's syndrome law that states a practitioner cannot provide an abortion if they know that the abortion is being performed because the fetus is Down's positive.⁹ This means that if you know the fetus has Down's syndrome, abortion is not allowed. The law is currently in effect and it was upheld by the Sixth Circuit Court of Appeals.

There are telemedicine bans that prevent practitioners from giving medication abortions via telemedicine. These are currently blocked while the litigation continues. Similarly, there are Written Transfer Agreements, which go back to unnecessary barriers for ambulatory surgical clinics.

You now have a landscape nationally and a landscape here in Ohio. I want to move to how *Dobbs* will affect health care overall before we focus on IVF. We start our discussion of how *Dobbs* affects healthcare overall by considering emergency medicine. EMTALA, the Emergency Medical Treatment and Labor Act, requires stabilization of any patient who arrives in a hospital emergency room.¹⁰ Adding to the EMTALA discussion are laws referred to as

⁸ OHIO REV. CODE ANN. § 3726.02 (2023).

⁹ OHIO REV. CODE ANN. § 2919.10 (2023).

¹⁰ Emergency Medical Treatment and Labor Act of 1986, § 1867, 42 U.S.C. § 1395dd.

Supporting Not Reporting laws. We see these laws in many states, particularly states that have large international airports such as Chicago and Boston. Supporting not reporting are laws that prohibit emergency medical personnel from interacting with law enforcement on any level, even with a subpoena. These laws originated when people would travel into this country body packing, meaning having swallowed balloons of cocaine in order to get them across the border. If a balloon of cocaine ruptured, they wanted the affected individual to come to the emergency room to receive medical care without fear of prosecution. The idea was that medical care trumps legal concerns. In many states, these laws are now used to protect women traveling across state lines or within states where abortion is prohibited when they have potentially triggered a self-induced abortion. In this case, the goal of supporting not reporting laws is to protect the woman seeking emergency medical care after an attempted abortion. As a reminder, there is no way to medically determine whether an abortion is a miscarriage or induced by mifepristone and misoprostol. Since most women do not know this, they do not know to be silent regarding whether or not they have triggered the abortion and therefore supporting and not reporting is important to protect them.

Some additional ways that *Dobbs* will affect the practice of healthcare is in the field of mental health. A woman who has an unwanted pregnancy is potentially forced to carry the pregnancy to term for lack of access to care. This can be difficult enough in a benign situation but compounds the mental trauma in cases where the pregnancy is a result of violence, rape or incest. These types of circumstances raise issues in both psychiatry and psychology.

Pediatrics is an area that has not yet been addressed in any great detail. We are already seeing significantly increased rates of teen pregnancy affecting the practice of pediatric medicine. The Turnaway Study tells us that ninety-one percent of women and teens who sought abortion but could not access it, chose not to give the child up for adoption. These women reported that for them, there is a moral difference between termination and giving up a living, breathing child. We are already seeing higher high school dropout rates, which means less education and therefore less capacity to financially support the produced child.

Another area affected by the *Dobbs* decision is healthcare for the LGBTQIA+ community. From a legal perspective, people are rushing for adoption in single-sex relationships because only one member of the relationship is on the birth certificate and the other member of the relationship must adopt the child. It is particularly frightening because the day before

yesterday, an Oklahoma court handed down a decision in a case involving two female parents who were married and chose to reproduce using a sperm donor. They have one child together, with one member of the couple serving as both the gestational and genetic mother. This left the non-gestational, non-genetic mother needing to adopt the child. Now the couple are getting divorced and in the course of this divorce, the Oklahoma court has rescinded the non-gestational, non-genetic mother's parental rights and instead has given those parental rights to the sperm donor. The child is now under parental control of the gestational mother and the sperm donor.

The decision in *Dobbs* is dynamic and far reaching, particularly within all areas of reproduction. Today we are going to focus on Assisted Reproductive Technologies (ART). Specifically, we will focus on in vitro fertilization (IVF). I will preface each application of *Dobbs* to IVF with a brief explanation of the medicine and science involved in the specific reproductive technology. The simple explanation of IVF is that eggs and sperm are removed from the body, combined outside the body, and then once an embryo is created, it is placed back into the woman's body for gestation. I give such a simple introduction to IVF because it is important to understand that the embryo is the crux of any conversation regarding ART. The embryo, in the case of IVF, begs the question how we manage all of IVF. In abortion, the embryo is what many are trying to protect. IVF and abortion are inextricably linked because it is two different takes on the exact same item, namely the embryo.

The legal status of the embryo will determine how it can be used, either in IVF or in abortion. The most extreme legal definition at one end of the spectrum is to say an embryo is mere property. For example, if I am driving down the road, I lose control of my car, I smash through the fence in front of your house and rip up your lawn. I have damaged your property. Legally I owe you for repairs to your fence and your lawn. Is your embryo the same? If I am a clinic and I accidentally lose your embryo or accidentally damage your embryo, do I owe you what it costs to get to that embryo? If so, the embryo would be mere property. The courts have rejected the idea of classifying an embryo as mere property as we see in divorce cases. Couples who created embryos in the course of IVF treatment and who are now in the process of divorcing may dispute ownership and use of those embryos. In these cases, the court is unwilling to consider embryos in the same way that they do other tangible property. From this we know the court considers embryos to be more important than mere property, but how far onto that scale of property law will they go? Next, we examine the other extreme, specifically personhood. The

question is if we should attribute personhood to an embryo. If we do, is it then manslaughter if an embryo is lost in the process of IVF? We have seen a number of states cropping up with personhood laws that are intended to target abortion in the *Dobbs* era but in reality are going to affect IVF.

One example of personhood legislation is Nebraska Legislative Bill 933 which states, "an unborn child means an individual living member of the species *Homo sapiens*, throughout the embryonic and fetal stages of development from fertilization to full gestation at childbirth" and that, "causing or abetting the termination of an unborn child" would be unlawful.¹¹ In the context of IVF, fertilization happens outside the body and the embryo is grown outside the body for a minimum of three to five days before being placed back into the body. That is the precarious time during which an embryo is defined as a living person under this Nebraska law. There is always some natural attrition during the embryonic stage, raising the question if this loss could lead to a charge of manslaughter? There is only one state whose restrictive abortion law carves out protection for IVF: Indiana. Indiana's abortion law, which is very similar to the Nebraska law I just read you, has a clause that specifically says this article does not apply to in vitro fertilization.¹² This Indiana law is the one and only time we see any legislation on protecting IVF.

We also know that the courts are reticent to give personhood to an embryo. We see an example here in the state of Ohio, right here in Cuyahoga County. In 2018, when Ahuja clinic lost an entire cryopreservation tank full of embryos and gametes, there was at least one manslaughter case filed. The case was dismissed on summary judgment. We now know that the courts have been unwilling to go to either of these extremes of mere property nor of personhood, but that is the courts. The landscape is different when we discuss legislative categorization of the embryo.

There are many states that are trying to move towards personhood using legislative avenues. If you look at this list of states with proposed personhood legislation, it is a bit

¹¹ NEB. REV. STAT. § 28-396 (2006).

¹² IND. CODE § 16-34-1-0.5 (2022).

frightening because it is not just those dark red states that I showed you on the Guttmacher map. Some of these states are in the blue categories.¹³

The question of the legal status of the embryo still remains. So now let us move into the conversation of how the status of the embryo affects IVF. There are a number of areas of IVF that we are going to talk about. As we address each one, I will explain medically and legally how the definition of the embryo affects them. The areas we will discuss are egg harvesting, fertilization, preimplantation genetic testing, cryopreservation, storage and disposition, and lastly embryo transfer. Justice Alito, in the *Dobbs* decision, justifies overturning the right to abortion because abortion is not “deeply rooted in the history and traditions of our nation”. It is significant to note that the right to abortion was codified in *Roe v. Wade* in 1973 and that the first IVF baby, Louise Brown, was born in 1978. In other words, if abortion is not protected because it is not part of our history and tradition, then IVF, which is even younger, is not going to be protected either.

The holding in *Dobbs* states, “what sharply distinguishes the abortion rights from the rights recognized in the cases on which *Roe* and *Casey* rely is something that both those decisions acknowledge: Abortion destroys what those decisions call “potential life” and what the law at issue in this case regards as the life of “an unborn human being”.¹⁴ Every embryo sitting in a petri dish or a cryopreservation tank meets this standard. IVF embryos are not going to meet the standard of “history and tradition”, but they are going to meet the standard of “potential life”. This gives us great concern because the Supreme Court is focused only on the potential life of

Table 2. Personhood Legislation Introduced But Not Enacted: 2020, 2021, and 2022

Year	State	Legislation Introduced
2022	Iowa	H267
	Oklahoma	HJR1027, SJR17*
	South Carolina	S381
	Vermont	H248
	West Virginia	H2169, S251, S337
2021	Iowa	H267
	Indiana	HJR4
	Montana	H337*
	Oklahoma	HJR1027, SJR17
	South Carolina	S381
	Texas	H1623
	Vermont	H248
	West Virginia	H2169, S251, S337
2020	Iowa	S259
	Idaho	H361
	Missouri	H1799, H2285
	Oklahoma	S1721
	Washington	H2154
	West Virginia	H2074, HJR4

* Passed one chamber but not enacted.

Data from Guttmacher Institute. State legislation tracker: major developments in sexual & reproductive health. Accessed July 11, 2022. <https://www.guttmacher.org/state-policy>

¹³ Feinberg, Eve C. MD; Kawwass, Jennifer F. MD; Cedars, Marcelle I. MD. *Roe v Wade and the Threat to Fertility Care*. *Obstetrics & Gynecology* 140(4):p 557-559, October 2022. | DOI: 10.1097/AOG.0000000000004928.

¹⁴ See 142 S. Ct. at 2236.

this embryo and not on the active life of the woman whose bodily autonomy is going to gestate that pregnancy.

To answer the question of who this affects, here is some data on the populations that use IVF to reproduce. Twelve percent of all women in this country will require some level of medical intervention to either become or to stay pregnant. In other words, more than one in ten of the women in this room will require IVF to procreate. That is the percent of women requiring this medical intervention that is now coming into question as a result of *Dobbs*. Success for an IVF cycle is somewhere between 20% and 35% depending on the underlying medical conditions and the clinic's expertise. That means it takes an average of four IVF cycles to obtain an active pregnancy. The cost of going through a cycle of IVF is somewhere between \$8,000 and \$12,000 for the medical intervention and an additional \$7,000 to \$10,000 for the pharmaceuticals needed to support that medical intervention. Thus, every cycle of IVF is roughly \$20,000. Given that four cycles are the average necessary to achieve pregnancy, patients who seek IVF treatment must be prepared to shoulder a significant financial commitment. It is important to note that even great insurance does not, for the most part, cover ART or IVF. There are fifteen states in the union that require any level of insurance coverage for fertility. Of those, only four require coverage for IVF treatment. The other eleven states only require diagnostics to find out why an individual is infertile. The majority of the patient population is paying out of pocket and assuming debt to attempt to reproduce. As an overall perspective. In 2019, there were 84,000 children born from IVF that constituted about 250,000 IVF cycles. This is a little bit more than 2% of the birth population each year, somewhere between 2.2% and 2.4%.

The women who seek IVF fall into a number of categories. Those with medical infertility, a definition that encompasses a wide variety of diagnoses. Another group of women who seek IVF are those of advanced maternal age. The fertility cliff for women occurs around age thirty-five. A woman is categorized as advanced maternal age from age thirty-five to forty. After the age of forty, she is considered a geriatric pregnancy. Another population that seeks the assistance of IVF to procreate biologically are members of the LGBTQIA+ community. Lastly, is a category of patients who seek fertility preservation. An example would be a cancer patient who is about to undergo chemotherapy or radiation therapy. This patient may want to preserve her gametes or embryos prior to undergoing cancer therapy because she will not be able to genetically reproduce after her treatment has been completed. Other patients seek to preserve

their fertility for personal reasons such as career development and being established in your career before procreating. Military service and concerns about what will happen during deployments is another common reason to preserve one's fertility.

Now we can look individually at each stage of IVF and discuss how it may be affected by the *Dobbs* decision. First, I will explain medically what happens during the IVF process. Let us begin with egg harvesting. If you remember, I started by saying eggs and sperm would be removed from the bodies and combined outside the body to create an embryo. The male member of the reproductive team provides sperm. He does this by first abstaining from sexual activity for three to five days and then masturbating to provide a semen sample that is washed so that only sperm remains. Obtaining eggs from a woman is a far more involved and invasive procedure. In the average month, in a natural cycle, a woman releases one egg from one of her ovaries. If sperm is introduced at the right time, the sperm and egg will join and hopefully a pregnancy begins. In the case of egg harvesting for IVF, the goal is to stimulate the woman's ovaries to create as many mature eggs as possible. To achieve this, she will take two to three weeks of self-injected hormone therapy. During this time, she will come back to the fertility clinic every two to three days for transvaginal ultrasounds, monitoring and bloodwork. At the end of that two-to-three-week period, she will undergo a surgical intervention known as harvest. During egg harvesting the woman is under anesthesia when a probe is placed into the vagina, a needle will come out of that probe, penetrate through the vaginal wall, into the abdominal cavity and into the ovaries in order to aspirate eggs. Depending on age, the average woman will typically produce twelve to twenty eggs. The stimulation and harvest are invasive and come with risk. If we are going to consider embryos and potentially even eggs as having personhood, maximizing the number of eggs harvested in any given cycle could become problematic.

Now that we all understand the harvest phase of IVF, let us look at the next phase of the process, fertilization, because these two phases are linked. Fertilization is the process by which the sperm and the egg are combined. In traditional IVF, a single egg is placed into a petri dish that contains sperm. This is a Darwinian survival of the fittest form of fertilization that most closely mimics the competition that would occur in natural fertilization following sexual intercourse. A significant portion of fertilization in IVF is now performed by a process called intra cytoplasmic sperm injection (ICSI). ICSI is a procedure during which a pipette separates a single sperm and injects it directly into the egg. Because these eggs are so hard won and

valuable, ICSI is often preferred because it increases the fertilization rate from sixty percent in a natural cycle to eighty or eighty-five percent in an ICSI cycle. The ultimate result is an increased number of embryos. The more embryos that can be created, the greater the chance of achieving a live pregnancy. The question remains: what happens to the embryos? The embryos are fostered in an incubator for three to five days until they are ready for return to the woman's body to attempt pregnancy. Even with ICSI, only sixty percent of embryos will grow to five-day blastocysts. In other words, there is naturally a forty percent attrition in the development of embryos. This natural attrition rate begs the question of who is responsible for this loss? If the embryo is given personhood, is the embryologist responsible for the death of forty percent of the embryos or embryonic people?

We already see issues in other countries with creating more embryos than may be used in a given cycle. The best example of this is Germany. Germany, which has a unique history with concerns of eugenics, restricts their IVF cycles to only allow three embryos to be created per cycle. Think back to what the woman goes through in order to produce those eggs and also think about the process of fertilization and the attrition that occurs and the restriction to three embryos per cycle creates an obvious concern. It is likely that only one of those embryos will come to fruition. Now also remember that there is only a twenty to thirty-five percent chance of achieving pregnancy per embryo transfer. A restriction on embryo quantity per cycle requires the woman to undergo more invasive procedures and therefore incur additional risk in the process of IVF. If the result of the *Dobbs* ruling is to give personhood to embryos, the resulting restrictions during IVF will put women at greater peril.

Now this leads us to discuss how we manage embryos during IVF. Embryos that are not immediately transferred back to the woman for gestation will be cryopreserved and stored in cryopreservation tanks called Dewars. In all IVF cycles, every fertility clinic in this country must report data from each cycle to the Society of Assisted Reproductive Technologies (SART). Clinics are required to report when they start a cycle and what the outcome of that cycle was. This means we have voluminous data on exactly what and how IVF happens in the United States. The Centers for Disease Control (CDC) tells us that every single fertility clinic in this country, and there are over 440 of them, utilizes cryopreservation tanks to store both gametes and embryos. We know from the SART data that eighty five percent of all embryo transfers are

performed with frozen embryos. This demonstrates how important the process of cryopreservation is.

Now we see post-*Dobbs* laws that are intended to manage abortion having potential influence on IVF. Oklahoma SB 1553 defines the life and legal status as starting at fertilization. The act states that it is illegal to “induce an abortion if more than 30 days have elapsed since the probable beginning of the last menstrual cycle of the pregnant woman.”¹⁵ This abortion restriction has potential long reaching effects on IVF in which the vast majority of embryos are cryopreserved and stored for periods far longer than thirty days. Storage can be short or long-term depending on the intention of the IVF patient. For example, if a woman has a very successful IVF cycle that results in twelve embryos and she gets pregnant with one of the first embryos, the remaining embryos may sit in storage for years. There is a financial burden associated with storage. Storage fees vary from \$400 to \$1200, the average being \$827 a year. It is important to note that insurance does not cover storage fees, even in cases where insurance does cover IVF.

The storage fees associated with embryo storage may influence the disposition of the embryos. Some patients will pay to store the embryos until they are ready to attempt pregnancy again. Other options are to donate the embryos for use by others, donate the embryos for use in scientific advancement and training, or to simply thaw and discard the remaining embryos. If embryos are given the legal status of personhood, then what happens when the progenitors, the two genetic parents, disagree. For example, what if the egg donor wishes to use the embryo to reproduce but the sperm donor no longer wants children or does not want more children. Can one progenitor use the embryos if the embryos have personhood, i.e., do the embryos have a right to be born? What if neither progenitor wants to reproduce? Can the state step in and say cryopreserved embryos are equivalent to tiny people and the state’s interest in potential life outweighs the progenitor’s desire to not procreate? Can the state force donation of cryopreserved embryos to another person so that they can gestate and ultimately raise the child?

If the interpretation of personhood laws or restrictive embryo use laws prohibits destruction of cryopreserved embryos, we are likely to see a storage crisis occur. We already see this in Louisiana, which under Francophonian law refers to embryos as juridical persons. In

¹⁵ Okla. Sess. Laws 1153, (2022).

Louisiana it is illegal to destroy an embryo, i.e., a juridical person.¹⁶ As a result, there is a crisis of storage space in cryopreservation tanks. The last estimate put out by SART said that there are over 1 million embryos that are in different storage facilities throughout the country. Many of these 1 million cryopreserved embryos have been abandoned, raising the question of who pays the storage fees and what are the obligations of the clinics to store without payment. Though cryopreservation seems to raise significant issues of embryo management, it also allows for scientific advancement, specifically, preimplantation genetic testing.

The image you see in this slide is a cross-section of a blastocyst (five-day embryo) that can be biopsied for preimplantation genetic testing (PGT). At the blastocyst stage of embryologic development there are two differentiated parts of the embryo. The outer ring is the trophectoderm, the portion of the embryo that will ultimately become the placenta. The clump of cells you see is the inner cell mass, the portion of the embryo that will ultimately become the fetus. Embryologists can remove four or five cells from the trophectoderm without altering the embryo's ability to function or establish as a pregnancy. These cells can then have their genetic material sequenced to test the DNA of the potential fetus/child for abnormalities.

There are two types of testing that can be done, namely PGT-A (aneuploidy) and PGT-M (monogenic). Every human being should have forty-six chromosomes. Different disorders and syndromes occur when there are any number of chromosomes other than forty-six or when those chromosomes are in the wrong place. The most commonly known example is Down's syndrome, which is called Trisomy 21 because there are three chromosomes in the twenty-first locus. Preimplantation genetic testing for aneuploidy (PGT-A) will sequence the genetic material taken from the embryo to identify if the wrong number of chromosomes exists and where the problem exists. In other words, PGT-A will identify if an embryo has the genetic mutation for Down's syndrome or if it has a probability of having this mutation. When we discussed Ohio-specific laws, I talked about the law that states we cannot terminate a pregnancy if the practitioner knows the patient is requesting termination because the fetus has Down's syndrome. This raises the question of what happens when we discover that an embryo has Down's syndrome? Can that embryo be discarded or must it be used like any other embryo? If that embryo has personhood, why are we treating the extracorporeal embryo that is identified to have Down's syndrome differently from the fetus that has Down's syndrome?

¹⁶ LA. STAT. ANN. § 9:129 (1986).

The other version of preimplantation genetic testing is called PGT-M, in which the genetic sequence that is derived from the embryo looks for monogenic disease. An example of using PGT-M occurs when a family has a disease that has been identified in their family's genetic history such as Huntington's disease or Tay-Sachs disease. The embryos can be tested for the specific disease using PGT-M. This allows a progenitor to implant only the embryos identified to be devoid of the known disease.

Preimplantation genetic testing has become incredibly common in IVF. More than fifty-five percent of all IVF cycles done in the United States have PGT-A performed on the resulting embryos and that percent increases when you include PGT-M. Preimplantation genetic testing adds to the financial burden of IVF, costing another \$5,000 to \$8,000 per cycle. This is rarely covered by insurance, even in the states that require IVF insurance coverage. So how is it that fifty-five percent of all cycles use PGT? Because many clinics mandate it. Fertility clinics attract a portion of their patient population based on their SART data. If the clinic requires or strongly encourages all patients to have PGT-A, then their SART data will show greater success because all embryo transfers will occur with chromosomally normal embryos. Thus, all clinics want their patients to pay for PGT both for direct revenue from the PGT and to increase their SART data to attract additional patients. If embryos are given personhood, what happens to every embryo that is designated as chromosomally abnormal? Most doctors will not transfer a chromosomally abnormal embryo but if the embryo has personhood we will be forced to ask if the embryo has a right to life and therefore must be implanted.

One last area of IVF that could be affected by the *Dobbs* decision is embryo transfer. We know that pregnancy is risky, both for the fetus and for the gestating woman. Those risks markedly increase when multiple fetuses exist in the same pregnancy. The risks increase exponentially from singleton to twin to triplet pregnancy and beyond. All of the major leadership organizations in the field including the Society for Assisted Reproductive Technology (SART), the American Society of Reproductive Medicine (ASRM), the European Society of Human Reproduction and Embryology (ESHRA) recommend single embryo transfer. This is because a single embryo transfer is most likely to result in a singleton pregnancy, which is safest to gestate. Additionally, embryos that have been manipulated in any way, such as intra cytoplasmic sperm injection, assisted hatching, or preimplantation genetic testing, are associated with an increased bifurcation rate. In other words, embryos that have received any of the standard IVF treatments

are more likely to split and create identical twins. This means that if you transfer two embryos, the patient's risk of quadruplets is actually reasonably high. How does the *Dobbs* decision play a part in single embryo transfers and the gestation of multiples? If we have a law like Germany, where you can only create three embryos per cycle and we now have issues with cryopreservation, do you have to transfer more than one embryo if multiple embryos result in a cycle?

The bigger question here is what happens in high order multiples, a pregnancy with more than two fetuses. When a pregnancy results in high order multiples, high-risk obstetricians typically recommend selective reduction, the termination of one or more fetuses to reduce the pregnancy to a singleton or twins. This procedure allows the pregnancy to progress more safely for both the woman and the remaining fetus or fetuses. If abortion is not legal, selective reduction will not be legal and the gestating woman and her fetuses are left in a precarious position.

In conclusion, it is important to reiterate that we do not have any court decisions in this area. Courts have not yet addressed these questions of IVF and we see essentially no guidance on how abortion regulation will affect the provision of all assisted reproductive technologies. We do see court decisions that are protecting surrogacy but we do not see court decisions that are protecting IVF. Some cases in their holdings have referred to the potential, not actual, but potential constitutional right to assisted reproduction. None have actually codified this right yet. Experts currently predict that it is highly unlikely that the *Dobbs*' Court, with the atmosphere that currently exists, is likely to recognize assisted reproductive technologies as a right. Legislatively, the only law we see protecting ART is the one law that I quoted before from Indiana that specifically states the abortion restrictions do not apply to IVF. We do see a great example recently in Mississippi, where a proposed law designed to restrict abortion included a personhood initiative. It gained wide support until a nonprofit came in and provided community education on how this would have a detrimental effect on IVF. The ballot measure lost support and ultimately failed. Again, there is an inextricable link between abortion and IVF and laws that apply to one will affect the other. If we can properly educate law makers on how abortion regulation affects ART and IVF, we have a chance of protecting fertility treatment for the twelve percent of women who need assistance to become pregnant.

I leave you with this final thought: consider the fact that abortion is intended to end a pregnancy and IVF is intended to create a pregnancy but that both use the same embryo that we have focused on here today. All we are talking about is a geographical difference. If the embryo is inside of a uterus, it is protected and cannot be touched at the moment in the majority of states. If the embryo is in a petri dish or a cryopreservation tank, we can pretty much do whatever we want with it. The current legal standing under *Dobbs* protects the embryo when it is located inside the uterus, i.e., it cannot be taken out of the uterus, but when the embryo is sitting in a cryopreservation tank, it can be thawed and discarded. Either way, we are talking about the same embryo, the same potential life; the only difference is based on geography.

Thank you very much for listening. I welcome questions and discussion as well as feedback and the opportunity to continue this conversation with anyone who is interested.