

When does life begin?

Frozen embryos, IVF, and the sanctity of life

Alabama's Supreme Court recently ruled that frozen embryos are children under state law and thus subject to legislation dealing with the wrongful death of a minor. The court stated that the law applies to "all unborn children, regardless of their location."¹

This ruling raises the enormous ethical, cultural, and legal question: When does human life begin?

Nearly two-thirds of Americans believe that life begins at conception or with the first detected heartbeat; less than one-third believe it begins when the fetus is viable outside the womb or upon birth.²

If this is true, what are the implications for abortion? For in-vitro fertilization? For life itself?

In-vitro fertilization

In-vitro fertilization (IVF) is the process by which eggs are drawn from a woman's ovary and placed in a solution of sperm. This typically occurs in a petri dish, hence "in vitro" (in glass). After two or three days, the developing embryo is placed in the uterus to establish the pregnancy.

Since IVF produced the first American "test tube" baby in 1981, the procedure has grown to account for more than 1.5 percent of all births in the US. Embryos created through IVF but not transferred to the mother are stored at fertility clinics or other facilities, at a cost of \$300 to \$1,200 per year. A small percentage of people stop paying these fees, leaving it to the clinic or facility to maintain or discard the embryos.

Procedural options

Artificial insemination by the husband (AIH) is the use of the husband's sperm for this procedure. Artificial insemination by a donor (AID) is utilized when (1) the husband carries a

¹ Joseph Choi, "Alabama Supreme Court rules frozen embryos are 'children,'" *The Hill*, February 19, 2024 (<https://thehill.com/homenews/state-watch/4477607-alabama-supreme-court-rules-frozen-embryos-are-children/>, accessed 21 February 2024).

² "Religious Faith, Church Attendance Aligns With More Pro-Life Views," *Lifeway research*, May 31, 2022 (<https://research.lifeway.com/2022/05/31/religious-faith-church-attendance-aligns-with-more-pro-life-views/>, accessed 21 February 2024).

genetic disease; (2) he is sterile, either because of a disease or an accident; or (3) there is concern over an antibody reaction from the mother (the husband is Rh positive while she is Rh negative).

IVF can be performed in at least five ways.

One: Fertilization in the laboratory. This is the usual procedure, whereby multiple fertilizations are attempted in vitro, resulting in the creation of numerous embryos. Prospective parents and the clinic can then choose among three options:

1. All embryos are implanted.
2. Some are implanted, while others are stored.
3. Pre-implantation genetic diagnosis (PGD) is employed to select the most viable embryos, which are then implanted. The others are either frozen or destroyed.

Two: Fertilization in the fallopian tubes. This is known as gamete intrafallopian transfer (GIFT).

Three: Zygote intrafallopian transfer (ZIFT), where an embryo is created in a petri dish and then placed in the fallopian tube.

Four: Embryo transfer, utilized when a woman cannot create eggs. Embryos conceived in one woman are removed and transplanted into the uterus of another.

Five: Use of a surrogate mother. When a woman can produce eggs but cannot carry a baby to term, she can produce eggs which are fertilized and then implanted in the uterus of a surrogate who will carry the embryo(s) to term.

Thus it is possible for sperm from a male donor to fertilize an egg from a female donor, which is then placed in a surrogate mother, all on behalf of a married couple consisting of a husband with a low sperm count and a wife who has neither a functioning uterus nor ovaries.³

Ethical concerns

Some ethicists reject all procedures described above since they require the sperm donor to masturbate. However, as Grenz notes, "the ethical problem with masturbation does not lie in the act itself, but in the dangers that surround the practice, such as the risk of developing into a self-gratifying habit, dependent on pornography to maintain."⁴

When a third party is introduced to the process (donating either sperm or egg), this raises further questions:

1. Is this adultery? Note that the procedure occurs within the marriage bond and with both partners' consent.

³ Stanley J. Grenz, *Sexual Ethics: An Evangelical Perspective* (Louisville, Kentucky: Westminster John Knox Press, 1990), 170.

⁴ *Ibid.*, 171.

2. Will the partner for whom the donor is acting encounter feelings of inferiority?
3. Will legal challenges occur? If there is a divorce, does the partner who did not produce sperm or egg(s) have the same rights to the child? Will there be legal objections from the donor?
4. Will the child feel adopted in a sense? Will he or she seek to know the donor who is biologically his or her parent?

With AID, it is important to be sure that accidental incest does not occur. Kerby Anderson documents University of Wisconsin research indicating that an average sperm donor is used for up to six pregnancies and some for as many as fifty pregnancies. In a small community, the risk of accidental incest increases.⁵

AID can also lead to questions regarding paternal rights and is often used by lesbian couples. Use of AID can challenge the marriage bond as well.

The beginning of human life

The central question with regard to IVF and embryos is, of course, the beginning of life itself.

If we believe that life begins when a fertilized egg is implanted in the uterus, IVF and frozen embryos are defensible as they work with biological material prior to its status as “life.” If, however, we believe that life begins when the egg is fertilized, IVF and frozen embryos work with humans at their earliest stage of life.

Arguments against fertilization as the beginning of human life

An embryo is created when the egg (oocyte) is fertilized by the sperm. The resulting zygote must become implanted in the uterine wall if it is to develop. At least four arguments are cited against viewing the embryo as a human.⁶

One: The number of embryos that are not implanted or come to term

It takes six to twelve days for the embryo to implant in the uterine lining. By some estimates, only 25 percent of embryos produced naturally become implanted in the uterus of the mother. The rest are spontaneously aborted, typically because they lack necessary chromosomal characteristics or manifest other physical abnormalities.

If embryos are human from the moment of fertilization, we must conclude that billions of humans have been created across history who were never known by their parents to exist.

⁵ J. Kerby Anderson, *Moral Dilemmas: Biblical Perspectives on Contemporary Ethical Issues* (Nashville, Tennessee: Word Publishing, 1998), 48.

⁶ For more, see the excellent essay by Kristina Hug, "Therapeutic perspectives of human embryonic stem cell research versus the moral status of a human embryo—does one have to be compromised for the other?" *Medicina (Kaunas)* 2006, 42 (2) (<https://www.eurostemcell.org/therapeutic-perspectives>, accessed 8 March 2021).

Viewed theologically, this position means that parents are likely to meet numerous children in heaven they never knew they had.

Since the majority of embryos do not implant, many conclude that life begins not at fertilization but at implantation.

Counterargument: The number of embryos that do not come to term does not change the status of any individual embryo.

Two: The nature of "personhood"

It can be argued that the embryo does not possess the intellectual, physiological, emotional, or psychological factors typically associated with personhood. Every oak tree was once an acorn, but we do not consider an acorn to be an oak tree.

Counterargument: An infant does not possess factors associated with personhood in a mature sense, either. If we use the acorn-is-not-an-oak argument against embryos, we could apply it to infants as well.

Three: The fourteen-day threshold

Until the blastocyst is implanted in the uterine wall, it is not viable. This occurs by the fourteenth day at the latest. In addition, the embryo can be split to form twins until it is fourteen days old. After this threshold, it can be viewed as a unique individual.

And the blastocyst has no nervous system until it is fourteen days old, so it cannot be considered sensate. We remove organs from patients who are determined to be brain-dead and should view the embryo prior to sensation in the same way.

Counterargument: The viability of the embryo does not change its inherent status. The fact that it can be "twinned" does not make it less human. And the fact that it is not sensate before fourteen days does not make it less human. Once we erect this standard, what others will we require—verbalization? Independent viability?

Four: The embryo as organic material

It can be claimed that the embryo, so long as it is part of the mother's body, should be seen as any other body part. She should have complete control over the use of her body, including the fetus attached to her. This argument extends to the IVF-produced embryo—it is a body part belonging to its parents, to be treated as they wish.

Counterargument: The embryo from the moment of fertilization has its own unique chromosomal makeup. While it depends on its mother (or the laboratory) for nutrients and protection, so does an infant. It should therefore be treated as human.

Obviously, the claims cited above are used to conclude that IVF-produced embryos are not human. This conclusion dramatically affects decisions regarding scientific experimentation utilizing such embryos, as well as the disposal of frozen embryos.

Arguments for fertilization as the beginning of human life

When the first sperm penetrates the ovum, the egg reacts to initiate a mechanism that prevents other sperm from penetrating. The twenty-three chromosomes of the sperm unite with the twenty-three chromosomes of the ovum, producing a new forty-six-chromosome cell. Some thirty hours later, the first cell division occurs.

About a week later, at the blastocyst stage of about 128 to 256 cells, the organism implants into the nutrient lining of the uterus. Three days later, it sends a chemical-hormonal message to the mother's body, stopping her menstrual periods.

Testifying before Congress, Dr. Micheline Matthews-Roth, principal research associate of the Harvard University Medical School, concluded: "It is scientifically correct to say that an individual human life begins at conception, when the egg and sperm join to form the zygote, and that this developing human always is a member of our species in all stages of life."⁷

Other embryologists agree:

- "Although life is a continuous process, fertilization is a critical landmark because, under ordinary circumstances, a new, genetically distinct human organism is thereby formed. . . . The combination of 23 chromosomes present in each pronucleus results in 46 chromosomes in the *zygote*. Thus the diploid number is restored and the embryonic genome is formed. The embryo now exists as a genetic unity."⁸
- "Development of the embryo begins at Stage 1 when a sperm fertilizes an oocyte and together they form a zygote."⁹

Ethicist Robert Joyce believes strongly that human life begins at fertilization. His argument:

Conception is the moment when the so-called fertilization process is complete, and the point from which a genetically and physically unique individual is present and growing. . . . Before a sperm penetrates an ovum, these two cells are clearly individual cells and are parts of the bodies of the man and woman respectively. They are not whole-body cells as is the zygote cell which they cause; they are part-body cells. The zygote is a single cell that is a whole body in itself. From within it comes the rest of the individual. . . . The sperm and ovum are not potential life; rather, they are potential *causes* of individual

⁷ Cited in Richard Exley, *Abortion: Pro-Life by Conviction, Pro-Choice by Default* (Tulsa, Oklahoma: Honor Books, 1989), 18.

⁸ Ronan O'Rahilly and Fabiola Muller, *Human Embryology & Teratology*, 2d ed (New York: Wiley-Liss, 1996) 8, 29; cited in "Life Begins at Fertilization" (<https://www.princeton.edu/~prolife/articles/embryoquotes2.html>, accessed 8 March 2021), emphasis theirs.

⁹ Marjorie A. England, *Life Before Birth*, 2d ed. (England: Mosby-Wolfe, 1996) 31; cited in "Life Begins at Fertilization" (<https://www.princeton.edu/~prolife/articles/embryoquotes2.html>, accessed 8 March 2021).

human life. They do not, even together, become a new human life, because they do not survive beyond conception. In the fertilization process, they become causes of the new life.

Fertilization is a process. The process may take twenty minutes or several hours. But it has a definite conclusion. The moment at which this process terminates in the resulting zygote can be called conception . . .

The chromosomal uniqueness of the zygote is sufficient testimony to the radical difference of both form and matter in this new being; the unique matter of the zygote has traits similar to, but in no way identical with, those of the parents. . . .

At any given moment, a whole living substance—be it a peach tree, a rabbit, or a person—either is or is not alive. Once it is alive, it is totally there as this particular actual being, even though it is only partially there as a *developed* actuality. There is no such thing as a potentially living organism. Every living thing is thoroughly actual, with more or less potential: actually itself, while potentially more or less expressive of itself. A one-celled person at conception is not a potential person, but an actual person with great potential for development and self-expression. That single-celled individual is just as actually as person as you or I, though the actual personhood and personality of the new individual are, as yet, much less functionally expressed.

Natalism, the superiority of the born over the unborn, has replaced racism and sexism as the chief atrocity of our time. Fallacious thinking is polluting the atmosphere of thought regarding what a person is and when he or she begins. The philosophical forces of materialism, utilitarianism, and secular humanism press upon every pro-life thinker. Anyone who desires social justice for the prenatal child faces a tough swim against a mighty current."¹⁰

Dr. and Mrs. J. C. Willke conclude:

When sperm and ovum join, there is created at that time a new living being; a being who has never before existed in the history of the world and never again will exist; a being not at the end of the line, but at the dawn of existence; a being completely intact and containing within himself or herself the totality of everything that that being will ever be; a being moving forward in an orderly process of growth and maturation, destined to live inside the mother for almost nine months and for as many as a hundred years outside.¹¹

I am convinced that human life begins at fertilization, for five reasons.

¹⁰ Robert E. Joyce, "When Does a Person Begin?" *Readings in Christian Ethics*, vol. 2, ed. David K. Clark and Robert V. Rakestraw (Grand Rapids, Michigan: Baker Books, 1996) 49–50; his italics.

¹¹ Dr. & Mrs. J. C. Willke, *Abortion: Questions and Answers* (Cincinnati, Ohio: Hayes Publishing Company, 1988), 40.

One: At the moment of fertilization, the embryo possesses the chromosomal makeup of a distinct human being with all inheritable factors. Given normal circumstances, it will continue to grow into a fully functional human and can never become anything but a human.

Two: The embryo begins to grow from the moment of fertilization. While implantation is obviously critical to its survival, its growth does not commence at that time. If we had the scientific means to bring an IVF-produced embryo to full term outside a mother's body, it would become a baby just as fully as an embryo implanted in its mother's uterus.

Three: Even if the embryo is only "probably" a person from fertilization, it should be granted the rights of a person. Just as we do not bury a person who is probably dead, we should not kill a fetus who is only probably a person. Rather, we should take the morally safer road.¹²

Four: If the fertilized embryo must possess attributes of personhood such as intelligence and freedom, what of newborns and children with developmental challenges? All persons are equal in their right to life, with no priority given to age (see Psalm 139:13–16).

Five: We were each an embryo at one time. Gilbert Meilaender: "Each of us began life as an embryo, for an embryo is a human being in its earliest stage of development—fragile and undeveloped, to be sure, but nevertheless an integrated, self-developing whole. . . . a human being is a single organism with a continuous history."¹³

I therefore conclude that IVF is appropriate only if every embryo created in this way is implanted in the mother's uterus. I do not believe multiple embryos should be created and then tested for viability or other characteristics (this is known as pre-implantation genetic diagnosis). Nor do I believe embryos should be created in the laboratory and then frozen.

Other ethical considerations

"Functionalism" states that the fetus is a "person" when it can act personally as a moral, intellectual, and spiritual agent. (Note that by this definition, some question whether a newborn infant would be considered a "person.")

"Actualism" is the position that a fetus is a person if it possesses the potential for developing self-conscious, personal life. This definition would permit abortion if the fetus is considered to lack the capacity for functional life.

"Essentialism" argues that the fetus is a person from conception, whatever its health or potential. It is an individual in the earliest stages of development and deserves all the protections afforded to other persons by our society.

¹² Milton A. Gonsalves, *Right & Reason: Ethics in Theory and Practice*, 9th ed. (Columbus, Ohio: Merrill Publishing Company, 1989), 255.

¹³ Gilbert Meilaender, *Bioethics: A Primer for Christians*, 2d ed. (Grand Rapids, Michigan: William B. Eerdmans Publishing Company, 2005), 112.

What factors should we consider in choosing between "actualism" and "essentialism"?

One: The definition of a "person"

Many ethicists define a "person" as someone able to respond to stimuli, interact with others, and make individual decisions. A fetus with "disabling conditions" such as Down syndrome (DS) meets the first two standards from almost the moment of its conception and clearly cannot fulfill the third only because it is enclosed in its mother's body.

Two: The individual status of the fetus

A fetus is distinct from its mother from the moment of its conception. It is alive—it reacts to stimuli and can produce its own cells and develop them into a specific pattern of maturity. It is human, completely distinguishable from all other living organisms, possessing all forty-six human chromosomes, able to develop only into a human being. And it is complete—nothing new will be added except the growth and development of what exists from the moment of conception.

Every abortion performed in the United States is performed on a being so fully formed that its heart is beating and its brain activity can be measured on an EEG machine. At twelve weeks, the unborn baby is only about two inches long, yet every organ of the human body is clearly in place. These facts are true of all fetuses, whether they have "disabling conditions" or not.

Three: What about those with diagnosed disabilities?

A study published in the *American Journal of Medical Genetics* asked people with DS ages twelve and older about their self-perception. Nearly 99 percent of people with DS indicated that they were happy with their lives; 97 percent liked who they were; 96 percent liked how they look; and nearly 99 percent expressed love for their families. They "encouraged parents to love their babies with DS, mentioning that their own lives were good." The study concluded: "Overall, the overwhelming majority of people with DS surveyed indicate they live happy and fulfilling lives."¹⁴

Families with DS children are stable—in fact, one study found that divorce rates among such families were lower than for families with other birth defects and those with no identified disability.¹⁵ Another study compared the adjustment of DS families with typical families, concluding that "there were no significant differences between the groups on adjustment measures."¹⁶

¹⁴ B. G. Skotko, S. P. Levine, and R. Goldstein, "Self-perceptions from people with Down syndrome," *American Journal of Medical Genetics A*, October 2011 (<https://www.ncbi.nlm.nih.gov/pubmed/21910246>, accessed 27 November 2018).

¹⁵ R. C. Urbano and R. M. Hodapp, "Divorce in families of children with Down syndrome: a population-based study," *American Journal of Medical Retardation*, July 2007 (<https://www.ncbi.nlm.nih.gov/pubmed/17559293>, accessed 27 November 2018).

¹⁶ M. Cuskelly and P. Gunn, "Adjustment of children who have a sibling with Down syndrome: perspectives of mothers, fathers and children," *Journal of Intellectual Disability Research*, December 2006 (<https://www.ncbi.nlm.nih.gov/pubmed/17100952>, accessed 27 November 2018).

Life expectancy for DS children has increased from twenty-five in 1983 to sixty today. According to the National Down Syndrome Society, "People with Down syndrome attend school, work, participate in decisions that affect them, have meaningful relationships, vote and contribute to society in many wonderful ways."¹⁷

A study of children with spina bifida found: 64 percent of children assessed their quality of life as good, 30 percent as very good, and 6 percent as average. None of the patients considered their quality of life to be poor or very poor.¹⁸

While sickle cell disease patients understandably experience a poor health-related quality of life, their mental health and well-being is equivalent to the general US population.¹⁹

Life expectancy for patients with cystic fibrosis has improved from ten years in 1962 to thirty-seven years today.²⁰ New treatments hold great promise for improving lung function and reducing pulmonary exacerbations.²¹

There are nine types of muscular dystrophy (MD). Patients with some varieties (such as Becker MD) can live long, active lives. Even for patients with Duchenne MD, survival into the early thirties is becoming more common, with cases of men living into their forties and fifties.²²

Conclusion: The rights of the innocent

The Bible consistently defends the rights of those who are innocent and undeserving of punishment or death. For instance:

- "Do not kill the innocent and righteous, for I will not acquit the wicked" (Exodus 23:7).
- "There are six things that the LORD hates, seven that are an abomination to him: haughty eyes, a lying tongue, and hands that shed innocent blood, a heart that devises wicked plans, feet that make haste to run to evil, a false witness who breathes out lies, and one who sows discord among brothers" (Proverbs 6:16–19).

¹⁷ "Down Syndrome Facts," *National Down Syndrome Society*

(<https://www.ndss.org/about-down-syndrome/down-syndrome-facts/>, accessed 27 November 2018).

¹⁸ M. Krol, et. al., "Assessment of life quality in children with spina bifida," *Chir Narzadow Ruchu Ortop Pol*, January-February 2011 (<https://www.ncbi.nlm.nih.gov/pubmed/21850999>, accessed 27 November 2018).

¹⁹ Donna K. McClish, et. al., "Health related quality of life in sickle cell patients: The PiSCES project," *Health and Quality of Life Outcomes*, August 2005 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1253526/>, retrieved 27 November 2018).

²⁰ "Cystic Fibrosis Life Expectancy," *Cystic Fibrosis News Today*

(<https://cysticfibrosisnewstoday.com/cystic-fibrosis-life-expectancy/>, accessed 27 November 2018).

²¹ Cf. Claire E. Wainwright, et. al., "Lumacaftor–Ivacaftor in Patients with Cystic Fibrosis Homozygous for Phe508del *CFTR*," *The New England Journal of Medicine*, July 16, 2015

(<https://www.nejm.org/doi/full/10.1056/NEJMoa1409547>, accessed 27 November 2018).

²² "Duchenne Muscular Dystrophy," *Muscular Dystrophy Association*

(<https://www.mda.org/disease/duchenne-muscular-dystrophy>, accessed 27 November 2018).

- The Babylonians attacked Jerusalem "for the sins of Manasseh, according to all that he had done, and also for the innocent blood that he had shed. For he filled Jerusalem with innocent blood, and the Lord would not pardon" (2 Kings 24:3–4).

It is clear that God cares for the innocent and defenseless of the world.

Children, whether before their birth or after, are among his most valued creations.