DEALING WITH THE ‘WHAT IFS’ OF IVF:
EMBRYONIC LIVES MATTER

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Introduction

Nadya Suleman garnered national and international headlines in 2009 when she became the second American woman to ever give birth to a set of octuplets. Already a mother of six children through a reproductive technology called in vitro fertilization (IVF), the unmarried and unemployed “Octomom” as she was tabbed, set off a media firestorm of criticism from nearly every corner of society. Physicians lambasted the fertility specialist whose implantation of 12 embryos appeared negligent at best, criminal at worst.¹ Local residents chastised her use of state-funded disability payments for fertility treatments and bemoaned the possibility that the public may be left footing the outrageous medical bill for the care of the eight premature babies.² Religious pundits questioned the morality of intentionally “making” babies outside of the natural means of sexual union between a husband and a wife.

Certainly the ethical conundrums of assisted reproductive technologies did not begin nor end with the emergence of Octomom on the national scene. Christians living with a biblical worldview have continually had to evaluate how to engage technological advancements in a variety of fields. The development of medications like penicillin and medical procedures like bypass surgery are lauded by most and would hardly register on the ethical radar for most

¹ Laura Purdy, “In Vitro Fertilization Should Be an Option for a Woman,” in Contemporary Debates in Bioethics, eds. Arthur L. Caplan and Robert Arp (Oxford: Wiley Blackwell, 2014), notes: “In 2009, her IVF specialist, Dr. Michael Kamrava, lost his membership of the American Society for Reproductive Medicine. In October, 2010, the state of California began negligence hearings that could lead to his license being suspended or revoked. He is alleged to have transferred 12 embryos to Suleman, and to have failed to refer her for a mental-health evaluation, despite the fact that she already had babies of 17 months and four months at the time, when the standard of care for women Suleman’s age is, in any case, to transfer no more than two embryos,” 447.

² Ronald Munson, Intervention and Reflection: Basic Issues in Bioethics, Concise Edition (Boston, MA: Wadsworth, 2014), 190-1. According to Munson, the estimated cost for the medical care of the babies was $1.5 to 3 million.
believers. While evangelical opposition to the practice of abortion has risen to national prominence once again with the release of the Planned Parenthood videos, other bioethical issues, like assisted suicide, stem cell research, and assisted reproductive technologies have not necessarily received the same exposure.

As the number of assisted reproductive technologies grows and evolves, though, the theological and ethical questions concerning the nature of the family, the purpose of sex, and the meaning of marriage continue to abound. Should single women, like Suleman, take advantage of donated sperm and the IVF procedure in order to fulfill personal longing for children? Should one’s desire for children outweigh the potential physical complications that emerge from the intentional implantation of multiple embryos through IVF? Is it morally and ethically acceptable for an infertile couple to accept the donation of a third-party egg or sperm in order to conceive a child? What about the infertile couple whose desire for a genetically related child leads them to pursue a potential surrogate “womb” who they will hire as a human incubator? The ethical questions surrounding the use of assisted reproductive technology cannot be minimized nor simply ignored.

What the story of Octomom and the resulting reaction of the masses reveals is the general unpreparedness of the Church, both corporately and individually, to answer significant ethical questions that previous generations only read about in science fiction novels. Dennis Hollinger rightly summarizes this ethical distance when he states, “Frequently our technology runs far ahead of our moral ability to wisely judge with reference to the available options. Given the deep, innate desire to have children, many people simply ignore the ethical issues.”

Since the technological advances are “constantly taking us by surprise,” one cannot help but observe how easily believers are left “floundering because we face essentially unexamined questions.”\textsuperscript{4} The overarching goal of this paper, then, is not only to raise, but examine the ethical questions surrounding IVF before offering an evaluation of its potential use by infertile Christian couples to pursue pregnancy and parenthood.

**Methodology and Thesis**

In order to determine whether or not the use of IVF is a morally and ethically acceptable practice, the paper will engage in two specific tasks. First of all, a description of assisted reproductive technologies will be given in order to identify the significant ethical issues involved in the process. Secondly, the paper will evaluate the two most prominent ethical issues related to IVF in order to assess whether or not this assisted reproductive technology is morally and ethically acceptable. The working thesis of this paper is that *in vitro* fertilization, despite its potential positive outcomes which does not violate God’s design for reproduction within marriage, is *not* a morally appropriate procedure to be used by infertile Christian couples because it compromises the dignity, safety, and viability of human embryos.

**Assumptions and Limitations**

Assisted reproductive technologies fall under a broader category of ethical concern, namely bioethics. One of the limitations of this paper, with its focus on reproductive technology, is that other important aspects of bioethics, like euthanasia, assisted suicide, cloning, genetic

modification, and stem cell research cannot be treated. Secondly, the paper assumes the 
authoritative and inerrant nature of Scripture, which plays a vital role in constructing a 
framework to assess the legitimacy of assisted reproductive technologies. Thirdly, although 
many assisted reproductive technologies take advantage of a third party, the depths of the ethical 
implications of third-party influence in reproductive technology cannot be discussed at length. 
The assumption of this paper is that any reproductive technology that utilizes a third party is not 
an ethically or morally acceptable method of assisted reproductive technologies for Christian 
couples to pursue. With the purpose, task, assumptions, and limitations determined, the argument 
against the use of IVF begins with a basic discussion of assisted reproductive technologies.

What is IVF and ARTs?: A Brief History

For the first time in history, it is possible to conceive a child without sexual intercourse 
between a man and a woman. In fact, with all of the variations of reproductive technologies and 
therapies, Kilner and Mitchell claim that there are “at least 38 ways to make a baby.” Although 
the first known attempt at external egg fertilization in a German laboratory failed in 1878, both 
John Rock of Harvard (1944) and Landrum Shettles of Columbia University (1953) reported a 
successful in vitro fertilization of an egg within a decade of one another. The question remained

5. For a more extensive treatment of the history of bioethics and religion, see: Albert B. 
University Press, 2006), 46-57. On a general history of assisted reproduction, see: Thomas 
Shannon and Lisa Sowle Cahill. Religion and Artificial Reproduction: An Inquiry into the 
Vatican “Instruction on Respect for Human Life in Its Origin and on the Dignity of Human 

Suicide, & Other Challenges in Bioethics (Wheaton, IL: Tyndale Publishers, 2003), 137.
whether or not a fertilized egg could then be successfully transferred. To confirm the ability to transfer the fertilized egg, M.C. Chang of the Worcester Foundation of Experimental Biology (1959) inserted a fertilized rabbit egg into a second female rabbit which resulted in a successful pregnancy. By the middle of the 1960s, scientists had successfully achieved IVF in rabbits, hamsters, and mice, with only the human egg left to conquer. With the technology for IVF now available, the next step was to develop a procedure that allowed for the safest possible means for retrieving eggs from human females.

After years of experimentation on countless number of human embryos, British doctors Robert Edwards and Patrick Steptoe, known as the ‘fathers’ of IVF, implemented two revolutionary aspects that would radically change reproductive technologies forever. First of all, the doctors developed a medical procedure (laparoscopy) and a surgical device (laparoscope) which enabled a safer removal of a woman’s eggs from her ovaries. At the same time, they discovered that if they treated the female with certain hormones there was a greater possibility that she would produce multiple eggs during ovulation, rather than just one. Even though the first human pregnancy through IVF occurred in Australia in 1973 and only lasted nine days, five years later, Edwards and Steptoe celebrated the birth of the first “test tube” baby, Louise Brown, on July 25, 1978. The perfected process known as in vitro fertilization, would eventually win


Edwards a Nobel Peace Prize, radically transform the landscape of reproductive technologies, give hope to millions of infertile couples, and spark continual ethical debates.

**The Problem: Infertility**

The growing acceptance and use of assisted reproductive technologies over the past three decades only helps to highlight both the desire and desperation of many who suffer with the inability to have children. In 2002, the United States Center for Disease Control (CDC) reported that out of 62 million women in the United States who were of reproductive age, over 1.2 million (2 percent) attended an infertility-related medical appointment within the previous year, while upwards of 6.1 million (10 percent) women had received some form of infertility treatment at some point in their lives.\(^{10}\) Some estimate that approximately 15-20 percent of all married couples suffer from infertility, which is defined as the failure to become pregnant after twelve months of regular intercourse without any forms of birth control.\(^{11}\) The frustration, longing, and disappointment that accompany the reality of infertility serve as one of the primary reasons for the growth of assisted reproductive technologies (ARTs). It is estimated that more than 70,000 babies are born each year from ART, with 45,000 of those births alone resulting from *in vitro* fertilization.\(^{12}\)

For Christian couples wrestling with both the crippling reality of infertility and the longing for children, the question of the moral and ethical legitimacy of IVF, which stands at the heart of this paper, is of utmost importance. So what exactly are assisted reproductive

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12. Ibid., 131.
technologies, how are they used, and what ethical issues arise from their existence and implementation? More specifically, what is involved in the process of IVF and what unique ethical issues does it produce?

**What is IVF and ARTs?: A Brief Description**

The Center for Disease Control (CDC) strictly defines assisted reproductive technologies (ARTs) as “all fertility treatments in which both eggs and sperm are handled,” but not treatments “in which only sperm are handled or procedures in which a woman takes medicine only.” More broadly, though, assisted reproductive technologies are typically understood as any medical procedure “designed to alleviate infertility, or the inability of a couple to produce a child of their own.” While all assisted reproductive technologies share this common goal, what differentiates the techniques, in a general sense, is typically the location of fertilization, whether internal (artificial insemination) or external (IVF). Since artificial insemination and *in vitro* are the two most commonly utilized assisted reproductive techniques, they will occupy the majority of the proceeding discussion.

*Artificial Insemination (AI)*


The oldest and most commonly used method of assisted reproductive technology is artificial insemination (AI). This procedure is most often utilized when a husband is suffering with low sperm count or low motility. In this process, semen is collected from either a husband (AIH) or a donor (AID) typically through masturbation, then mechanically inserted into the vagina near the cervix of the woman. One form of artificial insemination, intrauterine insemination (IUI), uses a high concentration of collected sperm, which is washed of seminal plasma to increase motility, and then injected into the uterus through a thin plastic tube that is passed through the cervix. In each of these variations of AI, the insemination is timed to coincide with the female’s ovulation in order to maximize the potential for conception. The overall success rate of artificial insemination is usually between 60-80 percent.

Although a form of artificial insemination has been a known practice since the 18th century, the use of donor sperm did not manifest until the late 19th century, and is still highly debated in most religious circles. The dramatic increase of AI at the end of the 20th century can

16. Although the acronym AIH once stood for artificial insemination by husband, the term is now commonly referenced as artificial insemination homologous. Additionally, in order to avoid confusion with the sexually transmitted disease AIDS, the procedure known as AID is also known as TDI or therapeutic donor insemination. See, Edwin C. Hui, The Beginning of Life: Dilemmas in Theological Bioethics (Downers Grove, IL: InterVarsity Press 2002), 175, n 1.


19. Hui, Beginning of Life, 175.

be traced to the development of cryopreservation technology which allowed for the long term storage of donated sperm.\textsuperscript{21} This same technology also plays an important role in the successful storing of embryos during the process of \textit{in intro} fertilization. With this mind, one can easily understand how IVF has quickly become one of the most used assisted reproductive technologies.

\textit{In Vitro Fertilization (IVF)}\textsuperscript{22}

Perhaps the most well-known treatment for infertility is \textit{in vitro} (‘in glass’) fertilization. This reproductive technology is used most commonly when a woman suffers from blockage in her fallopian tubes which prevent the sperm from reaching and fertilizing the egg.\textsuperscript{23} One of the most important factors in successful IVF treatments is timing.\textsuperscript{24} Unlike AI techniques, the physical demands on the women during IVF treatments are intense. First of all, in preparation for the harvesting of eggs, a woman will take hormonal drugs for five to seven days in order to achieve “hyperovulation.”\textsuperscript{25} The purpose of this over stimulation is to insure that enough eggs will be produced in order to guarantee at least one viable embryo for implantation.

\textsuperscript{21}. Hui, \textit{Beginning of Life}, 176.


\textsuperscript{23}. Hollinger, \textit{Meaning of Sex}, 206.

\textsuperscript{24}. Kaplan and Kaplan, “Natural Reproduction,” 25.

\textsuperscript{25}. Hui, \textit{Beginning of Life}, 190.
At the appropriate time of the woman’s cycle, after more hormones are given, the eggs are harvested from the ovaries in one of two possible methods. While the woman is under general anesthesia, the doctors can make small incision above the naval and use a small fiber-optic laparoscope to guide a hollow suction needle that withdraws the eggs from the ovaries. In the second method, the doctors use ultrasound surveillance to guide a needle through the vaginal wall to remove the eggs from the ovaries. Once the eggs are gathered, they are washed and immediately placed into a petri dish full of nutrient solution and then into an incubator for four to eight hours. Next, the sperm sample is retrieved, washed of the seminal fluid, and spun down to a high concentration. Within 24 to 36 hours following their harvesting, the eggs fertilized with in a petri dish with a few drops of the highly concentrated sperm. After another 48 to 60 hours, once the eggs have developed into eight to sixteen cell embryos, usually two to four embryos are then transferred back into the woman’s uterus in hopes of a successful implantation.

One of the variations of IVF called zygote intra-fallopian transfer (ZIFT) follows the same pattern as traditional IVF, except that after fertilization the embryo is placed in the fallopian tube instead of the uterus. As a result, the embryo travels down its natural path from the fallopian tubes to the uterus, which has shown to have a higher rate of successful implantation. Another IVF variation is gamete intra-fallopian transfer (GIFT), which was developed by Dr.

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While this procedure is similar to both IVF and ZIFT, it differs in a significant way. Through this method, several unfertilized eggs are mixed with the sperm sample and then the mixture is transferred to woman’s fallopian tubes, in order to ensure that the gametes are in the “optimal location” for fertilization to take place in vivo, rather than outside of the womb. As a result, in GIFT, there are no “leftover” embryos or eggs, and if any fertilized eggs do not implant, this failure is a natural occurrence. This procedure can only be utilized when both the sperm quality is high and at least one fallopian tube is in good condition. For those who find ethical issues with the fertilization of multiple embryos, GIFT is the only technique that does not need to freeze or discard leftover embryos.

Ethical Issues of Third Party ARTs

Although the two most prominent ethical issues with IVF will be taken up in the next section, it is important to address briefly one specific issue that potentially affects most of the assisted reproductive technologies in some way: The involvement of a third party. While most people find little to no ethical or moral issues with AIH, the introduction of a third party in AID and even IVF raises a few red flags. There are several reasons why a couple would pursue this reproductive technology. For one, a husband who is sterile or may carry a genetic disease may opt for a third party sperm donation instead of placing his future child at risk. Perhaps a more skeptical motivation involves those who pursue AID for eugenic reasons, hoping to reproduce

32. Ibid., 147.
With the best possible “genes.” 34

From a social standpoint, Feinberg sees another potential issue in that AID allows both single women and lesbian couples to become pregnant and raise children in “fatherless” homes. 35 The legitimacy of these concerns may be scoffed by the LGBT community and liberal theologians, but certainly the biblical ideal for families is for children to be birthed and raised through a heterosexual marriage. While this only briefly scratches the surface of ethical issues involving third parties, Cynthia Cohen summarizes three reservations in the use of third party donations, in that the practice may “diminish the importance of biological relationships,” or have a “serious negative psychological impact on children,” and may lead to the “commodification and commercialization of procreation.” 36 It is this third reservation that has already come to fruition through use of surrogates or “rented” wombs. 37 Gilbert Meilaender summarizes the inherent difficulties with reproductive technologies that utilize third party participants:

There are, then, good reasons for Christians to reject any process of assisted reproduction that involves sperm or ova donated by a third party. Even if the desire of an infertile couple to have children is laudable and their aim praiseworthy, even if we know of instances in which assisted reproduction seems to have brought happy results, it is the wrong method for achieving those results. What we accomplish may seem good; what we do is not. For in aiming at this desired accomplishment we begin to lose the sense of biological connection that is important for human life, we tempt ourselves to think of the child as the product of our rational will, and we destroy the intimate connection between


35. Feinberg and Feinberg, Ethics, 404.


37. For a fuller treatment of surrogacy, see: Peters, For the Love, 58-84.
the love-giving and life-giving aspects of the one-flesh marital union. We should not hesitate to regard reproduction that makes use of third party collaborators as wrong—even when the collaboration seems to be in good cause.\(^\text{38}\)

While each of these reservations looks to the social, physical, psychological, and financial aspects, the primary reason for caution in considering third party reproductive technologies is the potential to disrupt the God-ordained design for procreation to occur within the confines of marriage between one man and woman.

**Evaluating the Ethics of IVF**

The ethical issues surrounding assisted reproductive technologies are identified in two basic ways: issues of purpose (motive) and issues of process (means). In other words, the two most pressing ethical concerns that will be assessed within assisted reproductive technology are primarily associated with *why* someone pursues infertility treatment (children) and *how* the specific treatment is carried out: (1) Does IVF violate God’s design for sex and procreation? and (2) Does IVF violate the dignity of human embryos?

**The Question: Does IVF violate God’s design for sex and procreation?**

To her credit, the Roman Catholic Church continues to lead out as the most unified religious voice in the area of sexual and reproductive ethics. Whether one considers the teachings short-sighted or outdated, the Catholic Church, with a position deeply rooted in natural law, has consistently rejected all forms of contraception and “artificial” reproduction primarily because it either violates the sanctity of human life or the sanctity of marriage.\(^\text{39}\) More specifically, the

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Catholic tradition would reject IVF, and all other reproductive technologies, because it disconnects procreation from the sexual action between a husband and wife. Every individual sexual encounter must be open to the possibility of creating new life since God designed sexual relations with both the unitive and procreative purposes to operate together.

Two official documents summarize the Catholic teaching on sex, marriage, and reproductive technologies. The *Humanae Vitae: On the Regulation of Birth* (1968) states:

That teaching [that every sexual act must be open to procreation], is founded upon the inseparable connection, willed by God and unable to be broken by man on his own initiative, between the two meaning of the conjugal act: the unitive meaning and the procreative meaning. Indeed, by its intimate structure, the conjugal act, while most closely uniting husband and wife, capacitates them for generation of new lives, according to laws inscribed in the very being of and of woman. By safeguarding both these essential aspects, the unitive and procreative, the conjugal act preserves in its fullness the sense of true mutual love and its ordination towards man’s most high calling to parenthood.  

The *Instruction on Respect for Human Life in its Origin and on the Dignity of Procreation* (also known as *Donum Vitae*), which was written in 1987, reiterates the position in relationship to assisted reproductive technologies:

Such fertilization is neither in fact achieved nor positively willed as the expression and fruit of a specific act of the conjugal union. In homologous in vitro fertilization and embryo transfer… even if it is considered in the context of de facto existing sexual relations, the generation of the person is objectively deprived of its proper perfection: namely, that of being the result and fruit of a conjugal act.

While certainly this position encourages a view of the relationship between sex, marriage, and procreation, is IVF a violation, and thus ethically and morally wrong, work outside the design of God for sex, marriage, and families? In order to determine if IVF operates outside the framework for procreation in the eyes of God, one must determine if there are other purposes for sexual...

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relationship within marriage besides the procreative and unitive of the Catholic tradition.

In his work, *The Meaning of Sex*, Dennis Hollinger highlights four biblical purposes for sexual union within marriage, which, as already supposed, is the foundation and only proper relationship within which children should be begotten: consummation, procreation, love, and pleasure.42 Certainly the first two purposes align closely with the unitive and procreative purposes held by the majority of Catholic scholars. The last two, however, provide great insight Protestants need in order to wade through the ethical issues of assisted reproductive technologies and their moral and ethical stance in the design and purposes of God.

*Consummation and Procreation*

The closest one can come to a biblical definition of marriage in Scripture comes from the opening chapters of Genesis. Seeing that it was not good for Adam to be alone, God makes for him a “suitable helper” (Gen 2:18), to which Adam declares: “This at last is bone of my bones and flesh of my flesh; she shall be called Woman, because she was taken out of Man.” (Gen 2:23). Even the creation of Eve as a female demonstrates God’s original design for both the marriage of Adam and all subsequent marriages was to be a monogamous heterosexual relationship.43 At this point, the biblical narrator details a new and unique relationship between Adam and Eve as the man is called “to leave his father and mother” and “hold fast to his wife” and then “they will become one flesh” (Gen 2:24-25). Both Catholics and Protestants find a consummative purpose within this one-flesh union between one man and one woman. So in


order to properly understand the command to “be fruitful and multiply” (Gen 1:28), one must also look to the framework of Gen 2, which affirms marriage as the location for sex.

The creation account reveals three aspects of this unique relationship that informs an understanding of sex and marriage. First of all, Adam was called “leave his father and mother,” which denotes a change in status and relationship with those around him. Secondly, Adam was to “hold fast to his wife,” denoting not only commitment, but permanence of the relationship. Finally, the description “they shall become one flesh,” speaks of the sexual (consummative) aspect of the relationship. Sexual relationship is designed to occur only within the framework of a one woman-one man lifelong committed marriage. Paul uses the Genesis account to commend husbands toward sacrificial, not self-serving love for their spouses (Eph 5:31), as well as warn the Corinthian church away from sexual immorality (1 Cor 6:16). Paul’s warning of a “one-flesh” activity with a prostitute points to the seriousness of the design for sexual activity to be reserved for husband and wife alone.

In short, both the Old and New Testaments teach procreative, monogamous marriage as the norm. In his wisdom, God designed humanity distinctly male and female in his own image (Gen 1:27), which He declared as good (Gen 1:31). God’s design of sexuality is a gift given to humanity not only for procreative purposes, but also for personal and social satisfaction (Gen 2:18-25). Sexual relations were designed by God for marriage and marriage alone, which is also the natural means by which the husband and wife were to “be fruitful and multiply.”

**Love and Pleasure**

While Scripture certainly affirms the procreative and unitive (consummation) purposes of

sexual relationship within marriage, there does not seem to be any biblical mandate that the two aspects must always be linked. Scripture also speaks of love and pleasure as acceptable function of sexual relationship within the confines of marriage. One could argue that Scripture makes clear that sexual pleasure between married couples is good even if pleasure is the objective. The evidence of this is in the fact that an entire book of the Old Testament, Song of Solomon, is devoted to declaring the goodness of sexual pleasure within marriage. The references to fine foods (4:13-5:1) and the imagery used to describe each other’s bodies (4:1-7; 6:4-9; 7:1-8) certainly affirms that pleasure was the intended purpose of the sex recorded in the book. Even more, at no point in the correspondence is the idea of procreation or children ever mentioned.

In his instructions to the church at Corinth, Paul also speaks about the physical pleasure of sex, in that he instructs the congregation to marry instead of “burning” with passion (1 Cor 7:9) and to avoid temptation to sexual immorality (1 Cor 7:2). In light of the rampant immorality, Paul tells husbands and wives to give to one another their “conjugal rights” (1 Cor 7:3) and to not “deprive one another” of sexual pleasure (except for a short time to pray), so that “Satan may not tempt you because of your lack of self control” (1 Cor 7:5). Like Song of Solomon, there is no mention of the procreative function of sex within marriage. Paul seems to be speaking clearly about the essential goodness of sexual pleasure when experienced in a heterosexual marriage.

**The Answer: No**

While affirming the importance and beauty of the procreative and unitive aspects of sex within marriage, it seems unnecessary to reject all reproductive technologies on this claim since

45. Rae and Cox, *Bioethics*, 104.

46. Ibid.
the biblical witness points to other purposes of sex within marriage that are not linked to the procreative function. Rae and Cox conclude in this manner: “Thus, if it is biblically appropriate to separate the purposes for sex, and to separate the pleasure apart from the procreative by using birth control, then it must be legitimate to separate procreation from sex by using some reproductive technologies.”47 Perhaps more clearly, David Vandrunen states, “If there is no moral necessity for every act of sexual intercourse to seek pregnancy as its goal, then there likewise seems to be no moral necessity for the union of a couple’s sperm and egg to be linked to a specific act of sexual intercourse.”48 John Frame take it one step further by claiming, “There is no Scriptural reason why a human egg should not be fertilized outside the mother’s body and later implanted in her womb, or even grown entirely outside the womb when and if that become technologically feasible.”49

Therefore, the infertile Christian couple should not feel compelled to avoid the majority of reproductive technologies (including IVF) that make use of their own genes. Even though the

47. Rae and Cox, Bioethics, 105; The authors also conclude: “There is no sound biblical reason to reject reproductive technologies, per se. However, rejection of the Catholic position on reproductive technologies does not mean accepting all reproductive interventions uncritically… Within other guidelines set by theological principles, there is no good reason to reject technologies that employ the genes of a married couple. This seems consistent with biblical teaching about marriage, family, and procreation which limits procreation to the sphere of marriage. That is, God’s design from creation is that children are to be procreated into a family that is built around a heterosexual marriage,” 106.

48. Vandrunen, Bioethics, 137; Later on, he also states: “In my judgment, there is nothing inherently immoral in a married couples’ pursuing husband-only assisted reproduction, so long as this link between sex and procreation is honoured” (he explains “this link” to be the retaining of sexual intimacy in marriage whilst seeking fertility options). Elsewhere (141) he outlines some other limitations: that a couple should have only as many eggs fertilized as they are committed to using immediately and allow no more than two embryos to be fertilized and implanted,” 138.

conception may not take place directly from sexual intercourse, *in vitro* fertilization does not violate God’s design for procreation as long the reproductive technology is pursued within the context of a loving one-flesh union (marriage) utilizing no third-party donors, after attempts at procreation have been unsuccessful. Marriages that are blessed with children should rightly celebrate the new life as a gift from God, not a product purchased or created. So in this regard, IVF is could be an ethical and viable option for infertile Christian couples to pursue.

**Does IVF violate the dignity of human embryos?**

In the 1987 issuing of the *Instruction on Respect for Human Life in Its Origin and on the Dignity of Procreation*, the Catholic Church stated that “The human being must be respected—as a person—from the very first instant of his existence.” 50 One does not have to hold to the Catholic position on ARTs, nor even agree, to be able to identify the serious ethical concerns that accompany the growth and advancement of reproductive technologies when it comes to the moral status of the human embryos involved in the treatments. During a typical IVF procedure, a doctor will usually fertilize more eggs than are actually transferred to the mother at one time. The remaining embryos are often discarded, while some may be stored with the hopes of using for another round of IVF at a later time. Therefore the question of the moral status51 of these embryos and what protections they should be given, and how they should be treated, plays a


significant role in determining the moral and ethical legitimacy of the procedure.\textsuperscript{52} In fact, Saunders argues that the question of moral status of the human embryo is “the single most important issue in bioethics.”\textsuperscript{53}

The status of an embryo as anything other than a preborn human is not a matter of religious speculation or faith, but of biological proof. Every human being began as a single-cell zygote who developed through various stages until adulthood. At each stage, though he may make look different, he was the same human being from the beginning.\textsuperscript{54} If in fact, one believes that life begins at conception, and conception takes place \textit{in vitro}, then there are manifold ethical questions to be addressed. The idea that thousands of embryos are destroyed or discarded without second thought is reprehensible. The main question to address is what happens to the embryos that are created outside of the natural location of the mother’s womb? Leon Kass points out that all embryos produced through IVF have four possible fates: (1) implantation, in the hope of producing from it a child; (2) death, by active killing or disaggregation, or by a “natural” demise; (3) use in manipulative experimentation—embryological, genetic, etc.; and (4) use in attempts at perpetuation \textit{in vitro}, beyond the blastocyst stage, ultimately, perhaps to viability.\textsuperscript{55}

Certainly the first fate, implantation, is the desire of all couples who choose to use IVF with the

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\textsuperscript{52} Cynthia Cohen, “Protestant Perspectives,” 144; See also, Leon Kass, “The Meaning of Life,” 98-116.


\textsuperscript{54} Ibid., 126.

hopes of becoming parents. But what if six eggs are fertilized and only three are implanted?

What are the alternatives to discarding these leftover embryos?

Rae and Cox offer three alternatives to discarding the leftover embryos: (1) freeze and store eggs, not embryos; (2) allow a “natural” death; or (3) donation.56 The first option certainly shows respect and dignity to the embryo. If only the eggs are preserved, rather than embryos, then no life has been created, thus no life can be harmed. At the same time, while the cost would be significantly more, the couple does avoid having to harvest more eggs at a later date. Instead, they will simply have to take a sperm sample and continue on to fertilization and implantation.

In the second alternative, whether the intentional discarding of embryos that lead to their demise or the intentional choice to allow a natural death of the embryo, neither option treats the embryo with respect or dignity. One must be mindful that the human embryo, no matter how early in the development process, is a person worthy of full moral respect.57 Those who propose allowing a “natural” death for the leftover embryos in the lab believe this action is parallel to miscarriage, rather than abortion. They rationalize that since embryos fail to implant within the uterus often, the location of the laboratory for this “natural” death is morally insignificant.58 In the third option, the embryos are treated with the utmost respect, in an almost pre-birth adoption.

If the leftover embryos are not discarded, there are still serious moral questions surrounding freezing embryos for possible later implantation. What happens if the couple gets a divorce or one spouse dies? If frozen, is the embryo at a greater risk of death when attempting to

56. Rae and Cox, Bioethics, 184.


58. Ibid., 186.
thaw for implantation? Is it morally and ethically acceptable to intentionally delay the potential growth of the embryo? Because of the highly unregulated nature of the entire industry and an environment that encourages the destruction of human beings, Tollefsen believes that the practice of IVF should be “radically rethought, and no couple should cooperate with the project of producing more embryos than they plan to implant right away (for, if the embryo is a human person, it is surely disrespectful to ‘store’ that person in cryopreservation until such a time as one might later want to ‘use’ or implant him or her).”

**The Answer: Yes**

In an attempt to bypass these potential ethical dilemmas, some suggest a very limited use of IVF, in that, couples should seek fertilization of only the number of eggs they would willingly have implanted at some other time. Vandrunen warns, though, that in light of the potential complications of freezing (then thawing) embryos potential participation in the demise of said embryos, couples who choose IVF should only fertilize as many eggs as they are willing to implant immediately. Many other scholars maintain that a limited use of IVF, like GIFT, is morally appropriate. In a recent article, D. Gareth Jones summarizes the underlying purpose for rejecting IVF in regards to its treatment of embryos:


60. VanDrunen, *Bioethics*, 141. He adds, “This means that Christians pursuing IVF should ordinarily allow no more than two eggs to be extracted and made subject to fertilization at any given time. Such a decision makes the odds of successful pregnancy for each round of IVF—each round being very expensive—rather low. My conclusion, therefore, is that, under a limited set of circumstances, IVF is a morally legitimate option. At the same time, even under these ideal circumstances, the financial and physical costs, weighed against the probability of success, require Christians to consider carefully the stewardship issues discussed earlier,” 141-2.
Embryos have been and will continue to be destroyed as long as IVF is employed. For many this is not a major problem, but it should be for those who regard embryos as vulnerable human beings to be protected and defended. If embryos are “one of us,” loved by God as we are, and to be protected as the most vulnerable and innocent of humans, it is imperative to provide cogent reasons why IVF might on occasion prove acceptable, even with substantial stipulations and provisos.\(^\text{61}\)

With no guarantee of protection of the human embryos in transport or storage and in defense of the thousands of other embryos that are discarded yearly, \textit{in vitro} can (and does) infringe on the sanctity of human life and compromises the dignity of human embryos made in the image of God. For this reason, IVF should not be considered an ethically and morally appropriate approach for infertile couples.

**Conclusion**

In his 1932 science fiction work, \textit{A Brave New World}, Aldous Huxley opens the novel by describing the overwhelming scene of students touring the Central London Hatchery and Conditioning Centre. As the students arrived at the mass fertilization area, the Director of the Center explained the remarkable process:

One egg, one embryo, one adult—normality. But a bokanovskified egg will bud, will proliferate, will divide. From eight to nighty-six buds, and every bud will grow into a perfectly formed embryo, and every embryo into a full-sized adult. Making ninety-six human beings grow where only one grew before. Progress.”\(^\text{62}\)

The \textit{progress} within Huxley’s fictional futuristic world involved the mass production and intentional manipulation of human embryos for the purposes of social stability throughout the World State. With the technological advancements of the last few decades, the process elaborated in the science fiction novel may not be too far away. With great advancements in


technology comes great responsibility. The purpose of this paper was explain and evaluate the moral and ethical legitimacy of assisted reproductive technologies, namely *in vitro* fertilization. While certain ARTs pose little to no ethical or moral dilemmas (AIH), others that involve third parties should be avoided. In the case of IVF between a husband and a wife, it was argued that couples should not reject the procedure on the basis of the Catholic argument that ARTs separate the procreative and unitive purposes of sex within marriage. But in terms of upholding the dignity of human embryos, IVF failed, and thus should be rejected wholly.

Even with this conclusion, though, the tension couples face in dealing with the potential use of ARTs can be readily seen. On the one hand, one affirms how children are a blessing for couples and IVF can serve to alleviate the pain and overcome the hindrances of infertility. But just because a technology is available does not mean believers should engage in its use. Even if IVF and other assisted reproductive technologies may not violate God’s design for procreation within the heterosexual marriage of an infertile couple, one still must wrestle with several issues concerning the design of family and the purpose of children.

One of the overarching questions with any reproductive technology is why should couples have children at all? Is the command to Adam and Eve to “be fruitful and multiply” still the mandate lived out for believers today? For the first couple, the mandate for procreation was in order to “fill the earth and subdue it and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth” (Gen 1:28). Some would argue that assisted reproductive technologies, like other forms of technological advancements, are simply another method by which believers are able to exercise their creative freedom in order to improve life and carry out God’s purpose of demonstrating dominion over
the earth. With this view, then, one could justify the use of IVF and any other assisted reproductive technology as morally and ethically viable options for couples desiring children in a heterosexual, monogamous marriage. At the same time, however, assisted reproductive technology also opens the gateway for the treatment of children as commodities to be purchased, and not gifts to be received, which is certainly a violation of the sanctity of human life and an affront to the dignity of the human embryos.

Throughout Scripture, children are seen as a blessing and a gift from God. Infertility is frowned upon within the Israelite community and Scripture repeatedly shows the longing of barren women and infertile couples to have children. Certainly Scripture does not directly address the use of reproductive technology. It does, however, lay the groundwork for one’s understanding of the innate desire for biological children. As a couple deals with their own infertility, acknowledging that children are a blessing, other socio-economic issues will also impact the decision-making process. With the longing for children comes the risk of couples becoming willing participants in the commercialization of children and the entire child-bearing process. Assisted reproductive technology is a massive two billion dollar industry in the United States alone that is “marked by intense competition, misleading advertising and fraud.”

63. Truesdale, *God in the Laboratory*, 145.

64. “Behold, children are a heritage from the Lord, the fruit of the womb a reward. Like arrows in the hand of a warrior are the children of one’s youth. Blessed is the man who fills his quiver with them! He shall not be put to shame when he speaks with his enemies in the gate” (Psalm 127:3-5).

65 Some of the notable accounts of infertility, include: Sarah (Genesis 12); Rachel (Genesis 30); the wife of Manoah, (Judges 13); Hannah (1 Sam 1-2) and Elizabeth (Luke 1-2).

Should one avoid a specific industry because of the potential dangers within its practice? Or can one safely navigate the path between utilizing a service and condoning the unethical practices within an industry? One does not stop buying a car, which is not necessarily a necessity, simply because of the shady dealings of a used car salesman. Each of the reproductive technologies come at a great cost, both emotionally and financially. One round of IVF treatment can average approximately over $10,000. With the average live-take-home rate per IVF cycle being anywhere from zero to 8.5 percent, the likelihood of a couple having a successful pregnancy in its first cycle is very slim. 67 Not only is this emotionally taxing on the infertile couple, but the financial strain of repeated attempts cannot be ignored. While other ARTs are far less, couples must ask whether or not pursuing IVF is the most God-honoring way of stewarding the finances entrusted to them.

Nevertheless, the tension is real, not only for individuals, but for organizations seeking to help guide believers toward making ethical decisions that are God-honoring. For example, the Christian Medical and Dental Association (CMDA) recently issued guidelines for determining the use of ARTs that could be deemed “an appropriate expression of humankind’s God-given creativity and stewardship,” which were: (1) Fertilization resulting from the union of a wife’s egg and her husband’s sperm; (2) Individual human life begins at fertilization; (3) God holds us morally responsible for our reproductive choices; (4) ART should not result in embryo loss greater than natural occurrence. 68

As a result, the CMDA accepts AIH, embryo adoption, IVF between married couples, and the cryopreservation of sperm and egg, but rejects third party donations, gestational


surrogacy, and the cryopreservation of embryos as well as the discarding of embryos, destructive experimentation of embryos, and preimplantation genetic diagnosis. But even in these standards, there is great complexity. In light of the fourth guideline, how exactly can a couple determine if the ART will produce less numbers of lost embryos than what would naturally occur? If, as Jones notes, that close to 70 percent of all embryos are lost naturally, then there may be considerable “leeway” for the IVF procedure. What this discussion demonstrates is that there are few simple answers when treating the various ethical concerns surrounding the use of assisted reproductive technologies.

At the root of the rejection of IVF as a morally and ethically acceptable reproductive technology, though, is not the possible disconnect between sexual acts and procreation or even a hesitancy concerning the physical aspect of the procedure. Rather, Christian couples should think long and hard before choosing in vitro, primarily because of the continual risk the treatment brings to the embryos—or human beings, who should be treated as our neighbor. Evangelicals have long been known for a strong pro-life stance when it comes to abortion matters. One must ask, though, in light of the ethical complexities surrounding the use of embryos for research purposes, genetic modification, and even cryopreservation in reproductive technologies, should not these lives matter also?

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