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Bill E. Davidoff

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FROZEN EMBRYOS: A NEED FOR THAWING IN THE LEGISLATIVE PROCESS

Bill E. Davidoff

INTRODUCTION

TENNESSEE Williams wrote that “life is an unanswered question, but let's believe in the dignity and importance of the question.”1 Life, or more specifically the beginning of life, is a question that has both galvanized and polarized the United States over the last 20 years. The most heated debate and discussion regarding the actual moment that life begins has taken place in the abortion context. Recent advances in medical technology, however, have shifted the debate to areas of non-coital reproduction with dramatic consequences on the participants in these procedures.

In vitro fertilization (IVF),2 is a relatively new medical process that allows infertile couples to conceive their own offspring.3 The first birth conceived through IVF was achieved in Great Britain in 1978.4 Three years later, in December of 1981, the first United States IVF baby was born.5 Since that time, the American legal system has been struggling to address the legal and ethical implications of IVF.6

Initial success rates of IVF were low, and its availability was confined to a limited geographic area.7 Today, however, with the aid of a new technique

2. In vitro fertilization is an infertility treatment that involves obtaining mature human ovum, fertilizing them with human sperm in a laboratory container, and then transferring the embryos back into the woman's uterus. OFFICE OF TECH. ASSESSMENT, U.S. CONGRESS, INFERTILITY: MEDICAL AND SOCIAL CHOICES 123, 123 (1988); see infra notes 21-30 and accompanying text.
3. Although the origins of embryo transfer date back to 1890, when Walter Heape performed the first transfer with rabbit embryos, this process was not successfully applied to humans until late in the 1970's. Angela Marmaduke & Shirley Bell, In Vitro Fertilization and Embryo Transfer Dilemmas, NURSING FORUM, Mar.-Apr. 1989, at 24.
5. See Jones et al., The Program for In Vitro Fertilization at Norfolk, 38 FERTILITY AND STERILITY 14 (1982).
7. See Dickey, supra note 4, at 323 (explaining that only 38 out of 108 in vitro fertilization clinics existing in the United States in March of 1985 had achieved a pregnancy, with only
called cryopreservation, thousands of babies have been born using IVF.

As the use of IVF increases, the debate on the advantages and disadvantages of the process intensifies. The benefits of IVF are numerous. In addition to helping infertile couples conceive, IVF has helped the scientific community acquire a better understanding of reproductive biology. Further, the process has been instrumental in improving both prenatal and postnatal care. 

Not surprisingly, however, the advent of IVF and cryopreservation have raised many troubling legal, medical, and ethical issues. Because these processes allow the embryo to survive outside the womb, situations such as death, divorce, or disagreement between couples raise difficult and complex questions regarding the eventual disposition of the in vitro embryo. Of course, clinics, doctors, and IVF participants may not always agree as to the best course of action. In fact, embryo disposition disputes are not only possible, but should be expected. At the center of this controversy is what legal status, if any, is possessed by a frozen embryo. A secondary issue is the determination of the rights each party has relative to the other in the event of a disagreement. Many of these issues have found their way into the court system in the cases of Davis v. Davis, York v. Jones, and Del Zio v. Co-

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8. Cryopreservation, in the context of this Comment, is the process by which embryos are frozen for an indefinite period of time in order to save them for future use. See Marmaduke & Bell, supra note 3, at 26. Cryopreservation is generally defined as the “preservation of biological materials, such as tissue, sperm, fluids, blood or plasma at very low temperatures... enabling the tissue to be used in another individual at a later time, as it remains viable after thawing. The technique is also used to preserve semen for artificial insemination.” TABER’S ENCYCLOPEDIC MEDICAL DICTIONARY 435 (16th ed. 1989).

9. Medical Research International et al., In Vitro Fertilization - Embryo Transfer in the United States: 1989 Results from the IVF-ET Registry, 55 FERTILITY AND STERILITY 14, 16 (1991). In 1989, there were 2876 American births resulting from the IVF process. Id.

10. See Barbara Gregoratos, Note, Tempest in the Laboratory: Medical Research on Spare Embryos from In Vitro Fertilization, 37 HASTINGS L.J. 977, 977 (1986) (explaining that research resulting from IVF has been extremely valuable in many medical contexts, including biology).

11. Id.

12. See Knoppers & LeBris, Recent Advances in Medically Assisted Conception: Legal, Ethical and Social Issues, 4 AM. J.L. & MED. 329 (1991). “More than a decade after the birth of Louise Brown and after 12,000 other births by in vitro fertilization, over 100 reports of special commissions worldwide exist on the ethical and legal issues.” Id.; see also Thomas Shannon, Ethical Issues Involved with In Vitro Fertilization, J. ASS’N OPERATING ROOM NURSES (hereinafter AORN), Sept. 1990, at 627 (discussing the ethics of in vitro fertilization).

13. An embryo is the stage of prenatal development of a mammal occurring between the ovum and the fetus. TABER’S ENCYCLOPEDIC MEDICAL DICTIONARY 576 (16th ed. 1989). In vitro means in glass, as in a laboratory container. Id. at 939.

14. As discussed below, even if all the participants do agree on a course of action, a court may still set aside the agreement under an “embryo as person” theory. See infra note 173 and accompanying text.


In each of these cases, courts were forced to decide what rights, if any, clinics, doctors, embryos, and IVF participants have in disputes regarding the disposition of frozen embryos. Unfortunately, the courts could only look to medical and legal commentary for guidance because the federal and state legislatures have been silent on these matters.

Because of the lack of guidance from either state or federal governments, participants in IVF programs frequently enter into agreements without any certainty of whether these agreements regarding embryo disposition will be enforced in court in the event of litigation. Unanswered basic questions that remain for future courts to struggle with include: (1) whether embryo disposition agreements are enforceable; (2) whether and under what circumstances these agreements may be modified; and (3) whether an agreement between parties may be implied merely by their participation in the IVF process.

This Comment maintains that there is a need for federal legislation and regulation regarding IVF disputes. Without more exact legislative guidance, the judiciary is unable to effectively and fairly respond to the disputes that have and will occur. Part I of this Comment discusses IVF and cryopreservation techniques. Part II reviews the current legal status of the embryo and the resulting status of the other IVF parties, including various attempts by the judiciary to resolve embryo disputes. Part III explores embryo disposition agreements and the effect that judicial enforcement of these agreements has had on embryo disputes. Part IV examines the ways in which other countries have attempted to handle these problems. Finally, Part V suggests that the federal government should draft legislation and regulations to give the participants a level of certainty that is not currently present.

I. IN VITRO FERTILIZATION AND CRYOPRESERVATION

A. IN VITRO FERTILIZATION

The IVF process gives an infertile couple the chance to conceive their own biological child. To participate in an IVF program, however, a couple must meet certain requirements. For example, a threshold requirement for participation is that the couple possess the type of infertility problem that the IVF process is designed to treat. Generally, IVF may be used when infertility has resulted from tubal factors, mucus abnormalities, immunity to spermatozoa, or male dysfunctions. Once a couple has met the general

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19. See infra notes 202-07 and accompanying text.
22. Id. at 122.
23. Id.
criteria for inclusion, they will usually undergo further screening to determine their suitability for the program.  

Once accepted into an IVF program, the first step in the process is to induce ovulation by treating the woman with fertility drugs. This will result in the production of an increased number of eggs, sometimes referred to as "superovulation." The eggs are then surgically removed and taken into a lab where they are fertilized with the prospective father's sperm. After fertilization, the eggs are transferred to the woman's uterus. The pregnancy will then proceed in much the same way as a coital pregnancy. Clinical pregnancies result in 20-25% of the cases, with successful deliveries occurring in roughly 10% of these pregnancies.

B. CRYOPRESERVATION

Cryopreservation is the method by which embryos are frozen in order to preserve them for future use. Cryopreservation generally involves the packaging of the embryo culture, resulting from the IVF process, with cryoprotectants. The culture is then placed in a plastic or glass container for gradual freezing and eventual storage in liquid nitrogen. An embryo may be cryopreserved at any developmental stage. Most efforts, however, have concentrated on four to eight cell embryos. When the IVF patient is ready for the embryo to be transferred to the uterus, thawing is induced by reversing the process. Approximately 50% of cryopreserved embryos survive the freezing/thawing process.

Before cryopreservation was developed, the major limitation of IVF was determining what to do with the excess embryos. Since the embryos could

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24. Zev Rosenwaks & Owen Davis, In Vitro Fertilization and Related Techniques, in DANFORTH'S OBSTETRICS AND GYNECOLOGY 821, 823-24 (6th ed. 1990). Although selection criteria will vary from program to program, factors of age, medical history, current health and psychological makeup are usually considered. Id.  
25. OLDS ET AL., supra note 21, at 122.  
26. Dickey, supra note 4, at 324.  
28. OLDS ET AL., supra note 21, at 122.  
29. Id.  
30. Id.  
31. Id. at 122. For criticism of this low success rate, see Shannon, supra note 12, at 626, who claims the major drawback of in vitro fertilization is that it does not work very well. About one-half of the clinics in the United States have not had a live birth result from the process. Id.  
32. This explanation of cryopreservation is both brief and simple out of necessity. For an excellent scientific and historical discussion of this process, see Alan Trounsan, Preservation of Human Eggs and Embryos, 46 FERTILITY AND STERILITY 1 (1986).  
33. Rosenwaks & Davis, supra note 24, at 836. "Cryoprotectants are agents that replace cellular water, and thus protect the embryos from the potentially lethal effects of freezing." Id.  
34. Id.  
35. Id.  
36. Id.  
37. Id.  
not be preserved, the only choices were to immediately transfer the embryos to the woman's uterus, discard them, or a combination of both. Transfer presented problems because it is usually limited to three to four embryos for health and safety concerns. Therefore, to the extent that transfer was an option, it was only available when the excess embryos were a small number.

Discarding the embryos also presented several problems. Initially, ethical issues concerning the disposition of the embryos must be addressed. Aside from moral concerns, however, discarding embryos forces the couple to go through the entire IVF process again if the initial process fails to produce a successful pregnancy. Consequently, freezing excess embryos for future use made the IVF process more efficient and easier on participating couples.

II. THE LEGAL STATUS OF THE EMBRYO

Although the importance of advances in IVF and cryopreservation cannot be overstated, one of the immediate effects of these processes has been to raise unprecedented legal issues. As a practical matter, the combination of IVF and cryopreservation allows embryos to survive outside the womb. Thus, among the questions raised is what independent rights, if any, are possessed by the in vitro embryo. The answer to this question necessarily affects the options available to clinics, doctors, and patients in possible dispositions of the embryos.

A. THE NEED FOR A DEFINITIVE STATUS

The security of transaction theory is a concept that invisibly guides most contractual agreements. Essentially, this theory is the shared understanding that certain agreements or promises bind the participating parties and are legally enforceable. If a breach of the agreement should occur, both parties, relying on either statutory law, case law, or a combination of both, have a reasonable expectation of how a court will decide their particular

40. Id.
41. Id.; see Marmaduke & Bell, supra note 3, at 25. “Increasing the number of embryos transplanted from one to three markedly increased the pregnancy rate from 13% to 35%.” Id.
42. One’s view on discarding embryos largely depends on whether the embryo is seen as a life form, deserving protection, or, instead, as property similar to other bodily organs. See infra notes 63-87 and accompanying text.
43. This repetition of the IVF process is especially difficult in light of the emotional and psychological toll that the procedure takes on the IVF patients. See Christopher Newton et al., Psychological Assessment and Follow Up after In Vitro Fertilization: Assessing the Impact of Failure, 54 FERTILITY AND STERILITY 879 (1990).
44. But see Marmaduke & Bell, supra note 3, at 27. “Use of cryopreservation for personal convenience, was certainly not part of the original purpose of IVF.” Id.
45. E. ALLAN FARNSWORTH, CONTRACTS 18 (2d ed. 1990). Protecting the parties' expectations after an exchange of promises is justified because, otherwise, the promises would be of little use. Id.
46. See E. Allan Farnsworth, Disputes Over Omission in Contracts, 68 COLUM. L. REV. 860, 860 (1968) (absent an overriding public policy concern, courts should enforce contracts in accordance with the parties' expectations).
dispute. Ultimately, this security allows the parties to deal with each other with a high degree of certainty.48

In the IVF context, however, doctors, patients, and clinics make agreements with very little certainty as to their enforceability.49 These agreements, commonly referred to as "consent documents" or "embryo disposition agreements,"50 ideally cover all possible uses and the disposition of the embryos in the event of disagreement, dispute, divorce, or death.51 Of course, the enforceability of such an agreement largely depends on what rights, if any, will be accorded to the in vitro embryo.52 Currently, however, there is little positive law or consistent public policy regarding the legal status of the embryo.53

The absence of a well-defined legal status for the in vitro embryo creates several problems. One of the dangers that has been noted is that it "may leave too much room for private reproduction agendas."54 Because there is a high degree of uncertainty as to the proper treatment of these embryos, both doctors and patients will most likely pursue their own particular objectives.55 Another problem is that in the absence of legal certainty or statutory guidance, patients and doctors may be reluctant to participate in IVF programs.56 Finally, and most importantly, parties that do participate in an IVF program and subsequently litigate the disposition of in vitro embryos may be at the mercy of whatever particular theory a judge chooses in determining the legal status of the embryo.57 This lack of certainty is particularly harsh in light of the already present emotional and psychological stress that infertility causes.58

Patients participating in an IVF program are in an emotionally vulnerable

47. FARNSWORTH, supra note 45, at 18.
48. Id.
50. For a representative embryo disposition agreement, see Appendix A.
51. Evelyne Shuster, Seven Embryos in Search of Legitimacy, 53 FERTILITY AND STERILITY 975, 977 (1990); see infra notes 157-70 and accompanying text. For an example of provisions regarding the contingencies of death or divorce, see Appendix A, page 3.
52. John A. Robertson, Reproductive Technology and Reproductive Rights: In the Beginning: The Legal Status of the Early Embryos, 76 VA. L. REV. 437, 452 (1990) ("At issue in determining [the] legal status [of the embryos] are several questions relating to the focus and scope of decisional authority over embryos.").
53. Robertson, supra note 49, at 1033.
54. Id.
55. Id.
56. Id. at 1034. This is perceived as a problem if you believe that the benefits of IVF are actually good for society. For a different perspective, see MAKING BABIES: THE TEST TUBE & CHRISTIAN ETHICS (A. Nichols & T. Holgan eds. 1984); Studdard, The Morality of In Vitro Fertilization, 5 HUM. LIFE REV. 41 (1979).
57. See infra notes 90-147 and accompanying text for a discussion of Davis v. Davis, 842 S.W.2d 588 (Tenn. 1992), cert. denied, 113 S. Ct. 1239 (1993).
This lack of emotional stability results from both infertility and the IVF procedure. The effect of infertility has been characterized as leaving the patients with a feeling of loss. This feeling of loss, which includes the loss of children, self-esteem, and social role, leaves the patient with feelings of "anxiety, anger, alienation, guilt and depression." At the same time, the patient is also dealing with the emotions that result from the IVF procedure. Although some of these emotions are gender specific, they generally include fear, guilt, and helplessness.

B. THEORIES ON THE STATUS OF THE IN VITRO EMBRYO

Determining the legal status of the embryo is essential to solving the uncertainty that now plagues the IVF process and participants. Because there is no positive law on the legal status of the in vitro embryo, litigating parties usually turn to one of the three established theories regarding embryo status: (1) the embryo-as-person theory, (2) the embryo-as-property theory, and (3) the embryo-deserves-special-respect theory.

1. Embryo-as-Person Theory

Under the embryo-as-person theory, embryos are human and, as such, should be accorded the rights of all other humans. This position is supported by three main arguments. First, supporters of this position argue that the in vitro embryo is biologically alive and genetically unique. This argument is based on the fact that embryos "metabolize, respire and respond to changes in the environment." Second, embryo-as-person supporters rely on the "continuum argument" to support their position. This argument suggests that in vitro embryos should be protected because of their potential for birth. Supporters add that upon formation of the embryo, it will continue to develop as human life, and therefore no interference should be allowed. Finally, this theory is defended by claiming that because the embryos are deliberately created, Roe v. Wade principles are inapplica-
ble. The rationale is that since in vitro embryos exist outside the womb and are purposely created, right to privacy arguments of the IVF patients must fail.

The embryo-as-person theory has been criticized in several areas. Critics maintain that although an embryo is genetically unique, this uniqueness does not give rise to a protectable interest. They argue that a cell lacks "neuromuscular requirements for cognition and sentience and is not even individual until after implantation and further development occur." Critics, therefore, maintain that in vitro embryos lack the necessary requirements to be a legally protected entity. The final criticism of the embryo-as-person theory is that the potential to become human does not mean that a human already exists. Professor John Robertson, professor of law at the University of Texas, adds that if this were the case, "an acorn should be treated as an actual, rather than a potential, oak tree." Therefore, detractors of this theory conclude that the interests of in vitro embryos, whatever they may be, are less than the competing interests of the IVF participants and other parties.

2. Embryo-as-Property Theory

A second theory regarding the legal status of embryos is that the in vitro embryo is similar to property, much like any other corporeal human tissue. The arguments supporting this theory are essentially the same ones used to criticize the embryo-as-person theory detailed above. Thus, supporters of the embryo-as-property theory conclude that as long as the IVF participants agree, no limitations should be placed on actions regarding embryos. This theory, of course, is not without criticism. Primarily, detractors claim that treating embryos as property fails to recognize the high value that society places on life and symbols of life.

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71. Dickman, supra note 6, at 830.
72. Id.; The right to privacy allows a woman to terminate a pregnancy through abortion without state interference as long as the fetus is not viable. Roe, 410 U.S. at 160; see also Davis, 1989 Tenn. App. LEXIS 641, at *31, *32 (trial court finds right to privacy argument is without merit in IVF context).
73. See supra note 65 and accompanying text.
74. Robertson, supra note 52, at 445.
75. Id.
76. Id.
77. Id. at 445; see also Singer & Dawson, IVF Technology and the Argument From Potential, 17 PHIL. PUB. AFF. 87, 90 (1988) (arguing that IVF technology makes traditional understandings of "potential" incompatible); P. SINGER AND D. WELLS, MAKING BABIES: THE NEW SCIENCE AND ETHICS OF CONCEPTION 71-75 (rev. ed. 1985) (criticizing the potentiality argument).
78. Robertson, supra note 52, at 445.
79. Id.; see also Davis v. Davis, 842 S.W.2d 588 (Tenn. 1992), cert. denied, 113 S. Ct. 1259 (1993); infra notes 126-45 and accompanying text (Tennessee Supreme Court finds that rights of the IVF patients are superior to that of the in vitro embryo).
80. Robertson, supra note 49, at 972.
81. See supra notes 73-79 and accompanying text.
82. Robertson, supra note 49, at 973.
3. Embryos-Deserve-Special-Respect Theory

The special respect theory accords the embryo a status somewhere between the two other theories. This theory, which has been adopted by the American Fertility Society, states that:

The preembryo deserves greater respect than that accorded to human tissue but not the respect accorded to actual persons. The preembryo is due greater respect than other human tissue because of its symbolic meaning to many people. Yet, it should not be treated as a person, because it has not yet developed the features of personhood, is not yet established as developmentally individual, and may never realize its biological potential.\(^8\)

Professor Robertson explains that because the embryo "has the potential to be more, it operates as a powerful symbol or reminder of the unique gift of human existence."\(^8\) According to Robertson, it is this symbolism that separates embryos from other bodily tissue and causes it to deserve special consideration even though it is not itself the right holder.\(^8\)

Obviously, however, special or qualified respect is not self defining. Treating an in vitro embryo with special respect will not have the same meaning for all people.\(^8\) Additionally, it is a value-laden decision that may help from a moral point of view, but is vague and offers no firm guidance in terms of how doctors, patients, and clinics are to deal with the embryos in order to legally protect themselves.

C. Judicial Application in Defining Embryo Status

As mentioned above, uncertainty regarding the status of the embryo creates many problems for IVF participants.\(^8\) Specifically, when litigation over an embryo disposition ensues, the parties must rely on what appears to be judicial subjectivity in regard to which embryo status theory will be applied to the case. To date, the only cases that have been brought to trial graphically illustrate the need for consistent legislation and regulation regarding the legal status of the in vitro embryo.\(^8\)

1. Davis v. Davis\(^8\)

The dispute in Davis best represents the difficulty that the judicial system has in assigning or determining the rights of the in vitro embryo. Factually, the case involved a couple who divorced while participating in an IVF pro-

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84. Ethics Committee of the American Fertility Society, \textit{supra} note 38, at 355. Preembryo is the term used by the Ethics Committee of the American Fertility Society to denote an embryo not more than 14 days old. \textit{Id.} at vii.
85. Robertson, \textit{supra} note 52, at 447.
86. \textit{Id.} at 446.
87. \textit{Id.} at 448.
88. \textit{See infra} notes 184-215 and accompanying text.
89. The cases that follow are used for illustrative purposes. This analysis does not include every case regarding these issues.
At issue was the determination of the proper disposition of the frozen embryos upon divorce. Since no embryo disposition consent documents had been signed, the focus was upon the rights of the various parties and not the validity of any particular agreement. What resulted was essentially a custody battle over the in vitro embryos between Junior Lewis Davis, the sperm donor, and Mary Sue Davis, the ovum donor. Mr. Davis, claiming the embryos were not life, asked the court to award himself and Mrs. Davis joint custody of the embryos, or to prohibit Mrs. Davis or another from using the embryos for implantation until they could agree upon their disposition. In the alternative, he asked the court to consider Mrs. Davis the only suitable party for implantation. Mrs. Davis asked that the court allow her to utilize the embryos for herself.

The outcome of the case necessarily turned on what rights, if any, are accorded to the in vitro embryo. As mentioned above, the court, having no statutory guidance, had three possible theories from which to consult and choose: (1) embryo-as-person, (2) embryo-as-property, and (3) embryo-deserves-special-respect. The application of each theory, under the facts of this case, lead to different results. Incredibly, all three courts that heard the case adopted a different theory regarding the legal rights of the embryos.

a. Davis v. Davis: Trial Court

At the trial court level, Circuit Judge W. Dale Young relied on the embryo-as-person theory in deciding that granting custody to Mrs. Davis would be in the embryo’s best interests. The adoption of this theory forced the court, in the context of a divorce action, to decide the legal status of a human being as an in vitro embryo. Importantly, the court first noted that neither Tennessee, nor any other state legislature, had enacted a law governing the case at bar. The trial court then went on to distinguish Roe v. Wade and Webster v. Reproduction Health Services as applying exclusively to

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91. See supra notes 63-87 and accompanying text.

92. Mr. Davis later argued that he would prefer to see the embryos destroyed before donating them to another couple.

93. Mrs. Davis subsequently decided she no longer wanted the embryos but asked the court for the authority to donate them to a childless couple.


95. Davis, 1989 Tenn. App. LEXIS 641, at *30. ("The Court finds and concludes that human life begins at the moment conception.") For criticism of Judge Young’s reasoning, see Shuster, supra note 51, at 975.

abortion situations. The court found that the right to privacy protections afforded by these cases were inapplicable in the IVF context. Thus, the trial court determined that there was no positive law or public policy that would prohibit its development of case law in this particular area.

In awarding custody of the in vitro embryos to Mrs. Davis, the court primarily relied on the common law doctrine of parens patriae. The focus of this equitable doctrine is that the state should act in the best interest of the child. Having concluded that the embryos were life, the trial court reasoned that the parens patriae doctrine afforded the embryos specific protection. Thus, Judge Young determined that it was in the best interest of the “children, in vitro, that they may be made available for implantation to assure their opportunity for live birth; implantation is their sole and only hope for survival.”

Without question, this decision caught the attention of both the American people and the rest of the western world. Awarding Mrs. Davis custody of the embryos raised several issues, such as (1) whether child support would be required; (2) whether a judge could actually force parenthood on a male IVF participant and, if so, whether parenthood could also be forced on a female IVF participant; and (3) whether an embryo disposition agreement would have had any bearing on the outcome of the case. Although each of these issues are significant, they are merely symptoms of the underlying problem, which is that, without legislative guidance, the judiciary is deciding embryo disposition disputes by relying on personal philosophies. As Professor Robertson states:

Judge Young’s conclusion that four-celled preimplantation human embryos are “children” and “human beings” is unprecedented and unwarranted. It has no discernable basis in common law precedents nor Tennessee law (which recognizes a separate legal interest in prenatal human life only at viability). It is a view rejected by highly respected ethical advisory bodies in the United States, Great Britain, Canada, France, and several other countries.

This remarkable conclusion appears to represent the judge’s own personal view of the significance of the biologic fact that a new human genome exists at or shortly after fertilization.

In spite of the volume of ethical opinions that are inapposite to this holding,
Judge Young did receive expert testimony that, indeed, embryos were "early human beings." Without statutes, regulations, or binding legal precedent regarding these issues, however, perhaps Judge Young's opinion is more subjective than unwarranted. A review by a higher court, which eventually establishes binding precedent, does not remove this element of personal subjectivity. It is only through the legislative process that advisory boards, scholars, and the general public have an efficient opportunity to be heard. The political process, at least theoretically, will remove most of the influence of individual subjectivity while still giving the parties involved in the IVF process a necessary level of certainty in their agreements. Mr. Davis subsequently appealed the decision to the Court of Appeals of Tennessee.

b. *Davis v. Davis*: Court of Appeal of Tennessee

The court of appeals, in reversing the circuit court's decision, implicitly adopted the embryo-as-property theory. Initially, the intermediate court found that the trial court's findings of fact and legal conclusions ignored "the public policy implicit in the Tennessee statutes, the case holdings of the Tennessee Supreme Court and the teachings of the United States Supreme Court." The court went on to add that it "would be repugnant and offensive to constitutional principles to order Mary Sue [Mrs. Davis] to implant these fertilized ova against her will." Therefore, the court reasoned, it would be equally repugnant to force Mr. Davis to bear the burdens of unwanted paternity.

Based upon its findings, the court of appeals held that both Mr. and Mrs. Davis should share a joint interest in the seven frozen embryos. The court supported this conclusion with two Tennessee statutes, which respectively regulate experimentation on aborted fetuses and codify the Uniform Anatomical Gift Act. These statutes address the disposition of human

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106. *Davis*, 1989 Tenn. App. LEXIS 641, at *82. Dr. Jerome Lejeune, the geneticist who provided this testimony, is best known for discovering the genetic cause of Down's Syndrome. His testimony, although convincing to Judge Young, was refuted by several other experts including Dr. Irving Ray King who stated that embryos do not begin to differentiate, and thus become genetically unique, until after 14 days. *Id.* at *66. For criticism of Dr. Lejeunes testimony, see George J. Annas, *A French Homunculus in a Tennessee Court*, 19 Hastings Center Rep., Nov./Dec. 1989, at 20.


108. *Davis*, 842 S.W.2d at 595.


110. *Id.* at *8*.

111. *Id.* at *9*.

112. *Id.* The court of appeals was later criticized by the Tennessee Supreme Court for failing to clarify specifically the nature of the interest. See *Davis*, 842 S.W.2d at 596.


Research, photography, sale, and experimentation upon aborted fetuses — Penalty for violation. It is unlawful for any person, agency, corporation, partnership or association to engage in medical experiments, research, or the taking of photographs upon an aborted fetus without the prior knowledge and consent of the mother.
organs and tissue, of either a particular donor or an aborted fetus, in what is essentially a property context. Additionally, the court cited to York v. Jones, discussed below, which based its holding on an embryo-as-property theory.

The practical effect of the court of appeal's decision and its adoption of the embryo-as-property theory is to give one party automatic veto power over the other. Because, in the intermediate court's opinion, joint custody means that both parties have an equal voice in the control of their embryos, the party that wishes not to become a parent may object and prevent the embryos from being transferred. Since the in vitro embryos cannot be preserved indefinitely, a party's continued objection may ultimately lead to the same result as discarding the embryos.

The appellate court's decision was generally viewed as an improvement over the trial court's holding. This is due in large part to the apparent consensus that embryos are not children, and parties should not be made parents against their will. Unanswered questions, however, still remained. For instance, the decision in favor of Mr. Davis necessarily interfered with Mrs. Davis' rights to procreative liberty. Yet, the appellate court did not explain why Mr. Davis' interest in avoiding procreation was given priority over Mrs. Davis' interest in procreation. Would the party wishing to avoid parenthood always prevail? If this is the case, what effect, if any, would an embryo disposition agreement to the contrary have? Therefore, while perhaps pleasing the general public, the decision offered little in the way of providing certainty for current and future IVF participants. The case was finally appealed to the Supreme Court of Tennessee.

c. Davis v. Davis: Supreme Court of Tennessee

Although the decision of the Court of Appeals of Tennessee was affirmed, the Supreme Court of Tennessee found that allowing one party absolute veto

(b) No person, agency, corporation, partnership or association shall offer money or anything of value for an aborted fetus; nor shall any person, agency, corporation, partnership or association accept any money or anything of value for an aborted fetus.

(c) It is the express intent of the general assembly that nothing in the provisions of this section shall be construed to grant to a fetus any legal right not possessed by such fetus prior to July 1, 1979.

(d) A violation of this section is punishable as a Class E felony.

114. See Davis, 842 S.W.2d at 595 (criticizing intermediate court's statutory reliance because it ignores the potential for life argument).
116. Davis, 842 S.W.2d at 595-96.
117. See id. at 598.
119. See Trounsan, supra note 32, at 10 (explaining that limitations exist as to the length of time that embryos can remain in cryopreservation).
120. See John Robertson, Divorce and Disposition of Cryopreserved Pre-Embryos, 55 FERTILITY & STERILITY 681, 682 (1991) (stating that "[t]he appellate court's decision is a sound resolution of the dispute in the Davis case").
121. Id.
122. Id.
power was "not the best route to take, under all circumstances." Instead, the court felt that embryo disposition disputes should be resolved:

first, by looking to the preferences of the progenitors. If their wishes cannot be ascertained, or if there is dispute, then their prior agreement concerning disposition should be carried out. If no prior agreement exists, then the relative interests of parties in using or not using the preembryos must be weighed.

The court went on to state that it found "troublesome" the impression that the intermediate court's holding left, that the IVF patients essentially had property interests in the in vitro embryos. The supreme court concluded that in vitro embryos were neither property nor persons, "but occupy an interim category that entitles them to special respect because of their potential for human life." This theory is the one adopted by the Ethics Committee of the American Fertility Society.

Upon adopting the embryo-deserves-special-respect theory, the court dismissed its importance in resolving the dispute at bar. Concluding that the outcome of the case turns on the parties exercise of their constitutional right to privacy, the court stated:

Although an understanding of the legal status of preembryos is necessary in order to determine the enforceability of agreements about their disposition, asking whether or not they constitute "property" is not an altogether helpful question . . . . [T]he essential dispute here is not where or how long to store the preembryos, but whether the parties will become parents.

Further, the Tennessee Supreme Court, relying on Tennessee's abortion statute, reasoned that the state's interest in potential life was not sufficient "to

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124. Id. at 598.
125. Id. at 604.
126. Id. at 596.
127. Id.
128. See supra note 84 and accompanying text.
129. Davis, 842 S.W.2d at 598.
130. The court cited to TENN. CODE ANN. § 39-15-201(c)(1)-(3) (1992), which provides that:

(c) No person is guilty of a criminal abortion or an attempt to procure criminal miscarriage when an abortion or an attempt to procure a miscarriage is performed under the following circumstances:

(1) During the first three (3) months of pregnancy, if the abortion or attempt to procure a miscarriage is performed with the pregnant woman's consent and pursuant to the medical judgment of the pregnant woman's attending physician who is licensed or certified under title 63, chapter 6 or 9;

(2) After three (3) months, but before viability of the fetus, if the abortion or attempt to procure a miscarriage is performed with the pregnant woman's consent and in a hospital as defined in § 68-11-201, licensed by the state department of health, or a hospital operated by the state of Tennessee or a branch of the federal government, by the pregnant woman's attending physician, who is licensed or certified under title 63, chapter 6 or 9, pursuant to his medical judgment; or

(3) During viability of the fetus, if the abortion or attempt to procure a miscarriage is performed with the pregnant woman's consent and by the pregnant woman's attending physician, who is licensed or certified under title 63, chapter 6 or 9; and, if all the circumstances and provisions required for a lawful abortion
justify an infringement on the gamete-providers' procreational autonomy."\textsuperscript{131} The rationale, of course, is that if the state's interest is not sufficient to prevent an abortion upon a fetus in the first trimester of pregnancy, then it certainly is not sufficient to interfere in the embryo context.\textsuperscript{132}

Upon dismissing the relevance of the in vitro embryo's status in determining the resolution of the case, the Supreme Court of Tennessee focused on what it considered the real issue—the constitutional rights to privacy of Mr. and Mrs. Davis. Initially, the court discussed the fact that although the right to privacy is not explicitly mentioned in either of the constitutions of the United States or the state of Tennessee, it was, nonetheless, a firmly embedded concept.\textsuperscript{133} In support of its premise, the court noted that the Fourteenth Amendment to the United States Constitution provides that "no state shall . . . deprive any person of life, liberty, or property without due process of law."\textsuperscript{134} Further, while the liberties guaranteed have not been defined with any particular exactness, the court reasoned that, consistent with United States Supreme Court case law, these liberties included fundamental rights that were personal in nature.\textsuperscript{135} Additionally, the court noted that the Tennessee Constitution places a strong emphasis on the concept of individual liberty.\textsuperscript{136}

Second, the Tennessee Supreme Court concluded that the right to privacy in Tennessee included an individual's right to procreate.\textsuperscript{137} Relying exclusively on United States Supreme Court cases involving reproductive freedom, the court illustrated that procreational autonomy is considered a basic concept of liberty.\textsuperscript{138} This procreational autonomy is composed of two

\begin{itemize}
  \item or lawful attempt to procure a miscarriage during the period set out in subdivision (c)
  \item and if, prior to the abortion or attempt to procure a miscarriage the physician shall have certified in writing to the hospital in which the abortion or attempt to procure a miscarriage is to be performed, that in his best medical judgment, after proper examination, review of history, and such consultation as may be required by either the rules and regulations of the hospital licensing board promulgated pursuant to § 68-11-209, or the administration of the hospital involved, or both, the abortion or attempt to procure a miscarriage is necessary to preserve the life or health of the mother, and shall have filed a copy of the certificate with the district attorney general of the judicial district wherein the abortion or attempt to procure a miscarriage is to be performed.
\end{itemize}

\textsuperscript{131} Davis, 842 S.W.2d at 602.
\textsuperscript{132} Id.
\textsuperscript{133} Id. at 598-99.
\textsuperscript{134} Id.
\textsuperscript{135} Id. at 599. The court relied on the United States Supreme Court cases of Meyer v. Nebraska, 262 U.S. 390, 399 (1923) (holding that liberty includes the freedom to contract, engage in a chosen occupation, marry, bring up children and "generally enjoy those privileges long recognized at common law as essential to the orderly pursuit of happiness by free men") and Olmstead v. United States, 277 U.S. 438, 478 (1928) (holding that the concept of liberty includes the right to be free of government interference).
\textsuperscript{136} Davis, 842 S.W.2d at 599. The Davis court thought it was especially significant that the Tennessee Constitution is the only constitution among the states that gives its citizens the right, in Article I Section 2, to resist oppression and interference with liberty, even to the point of overthrowing the government. \textit{Id.}
\textsuperscript{137} Id. at 600.
\textsuperscript{138} Id. at 600-01; see Eisenstadt v. Baird, 405 U.S. 438, 453 (1972) (holding that the right to privacy necessarily includes the individual's right to decide, without government interfer-
equally significant parts—the right to procreate and the right to avoid procreation. Of course, what remains is to determine which party’s equally significant right to privacy should prevail.

In the Tennessee Supreme Court’s view, resolution of the case required balancing the right to procreate against the right to avoid procreation. In balancing these rights, the court analyzed the individual burdens that would be imposed on both Mr. and Mrs. Davis. Imposing unwanted parenthood on Mr. Davis would have both financial and psychological effects. Specifically, Mr. Davis testified that his parents had divorced when he was five years old and that he had been placed in a boy’s home. This, Mr. Davis testified, left him suffering from “severe problems” as a result of the separation from his parents. In light of these experiences, Mr. Davis strongly opposed having a child that would not live with both of its parents.

The court next analyzed the burden Mrs. Davis would bear if the in vitro embryos were not transferred to another couple. The court concluded that she would bear the emotional frustration of knowing that the extensive and intrusive IVF procedures undertaken were futile and that the embryos she helped create would not become children. The court decided in favor of Mr. Davis, holding that his burden would be more significant than that of Mrs. Davis. In dicta, however, the court indicated that the case would have been closer if Mrs. Davis was intending to use the embryos herself. The court suggested that her interests would still not prevail unless she had no other reasonable opportunity to achieve parenthood.

The result of the supreme court’s decision in Davis is certainly a step forward in attempting to provide doctors, clinics, and IVF patients more legal certainty. Many problems, however, still remain. Most importantly is the extent to which parties may rely on the court’s suggestion in dicta that an embryo disposition agreement could have influenced the result of the litigation. Further, if embryo disposition agreements are enforceable in Tennessee, questions persist as to whether they may be modified after execution. Finally, it is not clear whether the court, under certain situations, would imply an agreement between the IVF patients by virtue of their participation in creating the embryos. Although the court did not imply a contract in Davis, it is not clear that this would never be the case. Therefore, although the Davis court did make it clear that the embryo-as-person theory is not the law of Tennessee and that embryo disposition agreements will probably be enforced, the need for legislative action is still necessary in order to provide a coherent, consistent framework in which the IVF parties can operate.

ence, whether or not to bear a child); Skinner v. Oklahoma, 316 U.S. 535, 541 (1942) (stating that the right to procreate is “one of the basic rights of man”).

139. Davis, 842 S.W.2d at 601.

140. Id.

141. Id. at 603-04.

142. Id. at 604.

143. Id.

144. Id.

145. Id.
FROZEN EMBRYOS

2. York v. Jones\textsuperscript{146}

\textit{York} involved a dispute between the IVF patients and the IVF clinic regarding which party possessed control over the disposition of one frozen embryo. While residing in New Jersey, a couple participated in an IVF program in Virginia. The couple subsequently moved to California following several unsuccessful implantation attempts. They asked the Virginia clinic to transfer the remaining embryo to a clinic in California where the couple would have it implanted. The Virginia clinic refused, however, claiming that transferring the embryo was not an option under the Cryopreservation Disposition Agreement.\textsuperscript{147} The Yorks brought suit in federal court for unlawful retention, breach of contract, quasi-contract, detinue, and violation of federal civil rights. The defendant clinic responded by filing a 12(b)(6) motion, claiming that the case should be dismissed because the Yorks had failed to state a claim upon which relief could be granted.

The \textit{York} court, which denied the clinic's motion to dismiss, implicitly adopted the embryo-as-property theory. In its analysis, the court determined that the cryopreservation agreement created a bailor-bailee relationship between the parties.\textsuperscript{148} As such, the relationship imposed an obligation on the clinic to "return the property" when the purpose of the bailment had terminated.\textsuperscript{149} Thus, consistent with the embryo-as-property theory, the \textit{York} court decided the motion based on the terms of the contract and the application of property law.\textsuperscript{150} In fact, the court assumed that the parties had property rights in the embryos and never actually discussed any other possibilities. The case eventually settled, however, so the extent to which IVF participants can rely on the embryo-as-property theory remains uncertain.

3. Del Zio v. Columbia Presbyterian Medical Center\textsuperscript{151}

The \textit{Del Zio} case was the first judicial decision involving the application of IVF.\textsuperscript{152} Mrs. Del Zio, who had medical problems with her fallopian tubes, was unable to carry a successful pregnancy. After surgery failed to cure the infertility problem, the Del Zios' physician, a staff doctor at Columbia Presbyterian Medical Center, suggested that the couple try the new procedure of IVF. At that time, there had been no successful implantations of an in vitro embryo. After the Del Zios agreed, an ovum from Mrs. Del Zio was re-


\textsuperscript{147} The Cryopreservation Disposition Agreement provided that should the couple no longer wish to attempt to initiate pregnancy, they could either 1) donate the embryos to another infertile couple; 2) donate the embryos for approved research investigation; or 3) have the embryos thawed but not allowed to undergo further development.

\textsuperscript{148} \textit{Id.} at 425.

\textsuperscript{149} \textit{Id.} (emphasis added).

\textsuperscript{150} See Robertson, \textit{supra} note 52, at 463.

\textsuperscript{151} See Lori Andrews, \textit{The Legal Status of the Embryo}, 32 \textit{Loy. L. Rev.} 357, 367 (1986) (noting that Mr. and Mrs. Del Zio were the first reported couple in the United States to attempt IVF).
moved and placed in a laboratory container, Mr. Del Zio's sperm was added, and the culture was placed into an incubator.

The Del Zios' cause of action arose when Dr. Raymond Vande Wiele, a hospital supervisor and chairman of the department in which the culture was housed, learned that a staff doctor was conducting an unauthorized IVF procedure. Dr. Vande Wiele felt that more research should be done before conducting the IVF procedure on humans and that, in any event, the hospital's permission should have been procured before conducting the procedure. Dr. Vande Wiele, without consulting either the Del Zios or the staff physician involved, deliberately destroyed the culture by placing it in a freezer in his office. Subsequently, the Del Zios filed suit for the deliberate destruction of a possible embryo.

At trial, the Del Zios maintained that they had suffered intentional infliction of severe emotional distress and tortious conversion of personal property. After a lengthy trial and jury deliberation, the jury rejected the plaintiff's property damage claim but awarded the Del Zios $50,000.00 in damages for the intentional infliction of emotional distress. Thus, in the Del Zio case, the court specifically rejected the embryo-as-property theory.

The rejection of the embryo-as-property theory casts doubt upon the potential enforceability of an embryo disposition agreement. Given that the jury was willing to accept that the Del Zios had become emotionally attached to the embryos as potential human life rather than property, one is left to wonder as to whether this potential life has rights of its own. It seems to follow that if embryos are not personal property, then doctors and IVF patients have limited authority and control over the disposition of the embryos. Again, this uncertainty illustrates the major problem that plagues the IVF process in the United States.

III. THE EMBRYO DISPOSITION AGREEMENT

Some commentators have suggested that judicial enforcement of embryo disposition agreements would resolve the uncertainty problems arising in the IVF context. Embryo disposition agreements are essentially contracts between the IVF patients, doctors, and clinics that provide for the disposition of any in vitro embryos in the event of specified contingencies. Embryo

153. Id. at 367-68.
155. Although sperm had been placed in the laboratory container with the ova, fertilization had not been confirmed at the time of destruction. See Tabitha Powledge, A Report From the Del Zio Trial, HASTINGS CENTER REP., Oct. 1978, at 15.
156. Palm & Hirsch, supra note 156, at 421.
157. For a representative embryo disposition agreement, see Appendix A.
disposition agreements generally provide for the disposition of in vitro embryos in the event of death, divorce, or dispute.160

The disposition agreement, which is normally executed before a patient begins the IVF process, falls into one of two categories.161 The first category has a provision that provides the couple an “advance directive option.”162 This type of agreement allows the IVF patients to decide the dispositional fate of the in vitro embryos in advance of the specified event. The most common directives are to donate the embryos to another couple, donate the embryos to the scientific community for research, or to discard the embryos.163 The second category of embryo disposition agreements informs the IVF patients of what will be done with the in vitro embryos should the specified event occur.164 For example, in the event of the death of one of the patients, the clinic may automatically discard any remaining embryos or automatically donate them to another couple. At the heart of this type of agreement is the concept of informed consent.165 Although the clinic determines the eventual disposition of the embryos should the specified event occur, the patients are presumably fully aware and informed of this fact and have agreed to it in advance. The agreement will be legally binding, in a manner similar to other medical procedures, only if the patient’s consent is voluntary, competent, and informed.166 Ultimately, the distinction between these two types of disposition agreements is that in the former, the contract is essentially between the two IVF participants and, in the latter, the agreement is between the IVF participants and the clinic.

If consistently enforced, embryo disposition agreements would solve many of the uncertainty problems that now exist in the IVF context.167 Unfortunately, the validity of embryo disposition agreements remains very much in question.168 Professor Robertson points out that:

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160. Robertson, supra note 160, at 410. A recent survey of embryo cryopreservation in the United States . . . found that twenty-three of the twenty-seven programs that reported offering embryo freezing required the patient to designate the method of disposition of frozen embryos in case of parental death or divorce. Of the centers that required a disposition document, twenty-one centers included the option to donate the frozen embryo to another couple, six included an option to use the embryos for research, and twelve included an option to discard the embryos.

Id.
161. Id.
162. Id.
163. Id. For representative examples of these provisions, see Appendix A, pp. 3-4.
164. Robertson, supra note 160, at 410.
166. Cynthia Northrop, Nursing Research, in LEGAL ISSUES IN NURSING 333, 340 (1987). Informed consent is defined as “[a] person’s agreement to allow something to happen (such as surgery) that is based on a full disclosure of facts needed to make the decision intelligently; i.e., knowledge of risks involved, alternatives, etc.” BLACK'S LAW DICTIONARY 779 (6th ed. 1990).
167. See infra notes 177-83 and accompanying text.
168. Robertson, supra note 160, at 410.
Uncertainty about the legal status or enforceability of these agreements is not surprising given the nascent state of embryo freezing. No state has enacted legislation recognizing the validity of such agreements, nor specified the conditions under which they must be made to be valid. Their validity has been neither upheld nor denied in the courts, if only because direct legal challenges have not arisen.\(^{169}\)

As alluded to in the cases discussed above,\(^{170}\) the enforceability of an embryo disposition agreement largely depends on the legal status accorded to the embryo. If there has been no legislative effort to either define embryo rights or regulate embryo disposition agreements, the courts are free to adopt the theory of their choice, causing tremendous legal uncertainty.

### A. Effect of Embryo Status Theory on Enforceability of Embryo Disposition Contracts

Each of the three theories regarding embryo status have a different effect on the possible enforceability of the disposition agreement. If a court adopts the embryo-as-person theory, one can presume that the embryo disposition agreement will either not be enforced or will be severely restricted.\(^{171}\) Because this theory assumes that the in vitro embryo has a constitutionally protected interest, the parties would be limited to dispositional options that preserve the embryo's best chance for life. Without question, under this theory embryos could not be discarded or donated for scientific research. The only available options would be for the IVF patient to either use the embryos for herself or to donate them to another couple.

Conversely, adopting an embryo-as-property theory implies that embryo disposition agreements are enforceable if they meet the other requirements of contract law.\(^{172}\) Under this theory, it may be concluded that there would be few, if any, limitations on the disposition options available to the participants.

Finally, and perhaps most difficult to predict, is the application of the embryo-deserving-special-respect theory and its effect on disposition agreements. In *Davis*\(^{173}\) the Supreme Court of Tennessee, which explicitly adopted this theory, stated in dicta that embryo disposition agreements would be enforceable. Many scholars and ethical committees supporting the theory also maintain that the theory does not preclude the enforceability of embryo disposition agreements.\(^{174}\)

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169. *Id.*

170. See supra notes 90-158 and accompanying text.

171. See *Davis*, 1989 Tenn. App. LEXIS 641, at *30 (finding that life begins at conception, arguably rendering embryo disposition agreements moot).


174. See *Robertson*, supra note 52, at 472-73.
There are numerous advantages to judicial enforcement of embryo disposition agreements. Primarily, judicial enforcement will allow the IVF participants to contract with each other without fear that judicial intervention will set aside their agreement. Other benefits, however, also result from increased legal certainty in the IVF context. For instance, if embryo disposition agreements are enforceable, the IVF patients will be allowed to exercise their procreative rights to the full extent. Another benefit of legal certainty is that it should increase the efficiency and convenience of the IVF process. This would result because advance certainty prevents major questions, such as how long embryos must be stored or the allowable disposition of embryos, from being decided on an ad hoc basis. Clinics, doctors, and patients would know in advance which legal options are available regarding the IVF process and that the agreements regarding these options will be binding. Ultimately, this would prevent the IVF participants from having to negotiate new agreements or await the outcome of costly litigation, such as occurred in Davis. A third benefit resulting from legal certainty is that it would decrease both the costs and number of disputes regarding embryo disposition. Less litigation could be expected because a party is not likely to argue for a disposition of embryos that is different from the one agreed upon in advance. This rationale applies whether the potential dispute is between the two IVF patients, as in Davis, or between the IVF patients and the clinic, as in York. Further, costs of dispute resolution should decrease because courts could focus entirely upon the validity of the agreement rather than the more complex issues of burden analysis and embryo status.

C. DISADVANTAGES OF JUDICIAL ENFORCEMENT OF EMBRYO DISPOSITION AGREEMENTS

In spite of the advantages resulting from judicial enforcement of embryo disposition agreements, in the absence of legislative guidance, many problems remain.

1. Modification

The first question is when and if, at all, an agreement can be modified once

175. Robertson, supra note 160, at 415. Maximization of procreative choice occurs in the context of patient prior directive embryo disposition agreements. Id.; see supra notes 156-58 and accompanying text.

176. Robertson, supra note 160, at 415.

177. Id.

178. Id. at 417.

179. Id. at 418.

180. Id.

the agreement has been signed by the IVF participants. The easy case, of course, is when all parties agree to modification. The American Fertility Society’s position is that IVF patients should be allowed to jointly change or modify their disposition directives if the contingency has not occurred. In these circumstances, the modification is really an agreement to make a new contract. Therefore, if embryo disposition agreements are enforceable, agreed-upon modifications should also be enforceable.

More difficult issues arise when one party wishes to change his or her disposition directive and the other refuses to agree. This scenario can arise in several contexts. For instance, the two IVF patients may disagree or, alternatively, the IVF patients and the clinic may be in dispute. Further, the party seeking to modify the agreement may be doing so either before or after any contingency has occurred.

Some have argued that in the absence of agreement, modification should not be allowed. The rationale of this conclusion is that the party not agreeing to the modification relied on the other party’s earlier promise. For example, in a situation where the IVF patients have agreed to discard the embryos in the event of divorce, the party not consenting to a modification may claim that he or she would not have agreed to the process if there was a risk of having children in the event of divorce.

Others, however, have argued that, even without the consent of the other party, modification should be unilaterally allowed because of the profound consequences of embryo transfer. In these circumstances, the IVF patient seeking modification should be able to prove that “changed circumstances make enforcement of the agreement unreasonable.” Without legislative guidance, one may conclude that the judiciary would, on a case by case basis, determine what changes in circumstances make enforcement unreasonable. As discussed below, these problems and others illustrate the need for legislative bodies, and not the judiciary, to provide proper guidance in the IVF context.

2. *Adhesion*

Another problem with judicial enforcement of embryo disposition agree-

182. See Ethics Committee of the American Fertility Society, supra note 38, at 60S. The American Fertility Society’s position is that IVF patients should be allowed to jointly change or modify their disposition directives if the contingency has not occurred. Id.

183. See Farnsworth, supra note 45, at 301 (substituted contracts have the effect of replacing the original obligations with the agreed upon new obligations).


185. See Robertson, supra note 160, at 420 (“The risk of unfairness in enforcing embryo agreements does not override the advantages of legal certainty that accrues to couples and IVF programs from enforcing these agreements.”); Ahnen, supra note 161, at 1350 (“If the gamete providers disagree as to the form of disposition . . . modification cannot occur, and the terms of the embryo disposition agreement should be enforced against the gamete providers.”).

186. See Farnsworth, supra note 45, at 260 (detrimental reliance may serve as a basis for enforcing contracts).

187. Robertson, supra note 160, at 420.


189. Id.
ments is the possibility of adhesion contracts.\textsuperscript{190} This problem can occur in two situations. The first arises when the clinic and doctors seek to limit or control the IVF patient's choices regarding embryo disposition.\textsuperscript{191} Assuming that embryo disposition agreements are enforceable, these limitations would also likely be enforceable as long as the doctors and clinics have a legitimate interest in controlling the embryo disposition.\textsuperscript{192} The primary argument in support of a clinic's or doctor's legitimate interest is that, as private institutions, they have professional concerns regarding the handling of the in vitro embryos and therefore need this type of control.\textsuperscript{193} A legitimate interest may also include the clinic's and doctor's moral philosophy.\textsuperscript{194} For instance, some IVF programs with pro-life views may refuse to offer IVF patients the option to discard the embryos.

Adhesion difficulties are possible in this context for several reasons. First is the potential for doctors and clinics to exert so much control over IVF programs that the patients have little or no choice in the embryo disposition.\textsuperscript{195} The patient's freedom of choice may be further restricted by geographic constraints and the possibility of similar professional and moral values in a particular region.\textsuperscript{196} Additionally, issues of unequal bargaining power are especially prevalent in the IVF context because the patients rarely have any detailed knowledge of the process and the procedure in comparison to those that operate the IVF programs. This issue is further complicated by the fact that the patients encounter IVF programs at a time when they are experiencing a tremendous amount of psychological stress and emotional trauma caused by infertility.\textsuperscript{197} These factors cause the possibility of adhesion between the patients and the clinic to be a real concern.

Adhesion problems may also arise as a result of the relationship between the two IVF patients. In cases involving the emotional or physical abuse of one spouse over another, the abused spouse's consent may not actually be voluntary. Even in less extreme cases, one spouse's domination in a relationship may effectively limit or eliminate the other spouse's freedom of choice.

These concerns can and should be addressed with statutory regulation. One possibility would be to require that extra protection be given to guarantee that the IVF patient's consent was truly informed.\textsuperscript{198} To be sure that the patients are fully informed of their reproductive choices and the possible consequences, a special consent counselor could be appointed to each couple

\textsuperscript{190} Adhesion contracts are a "[s]tandardized contract form offered . . . on essentially a take it or leave it basis. [The] distinctive feature of adhesion contract is that [the] weaker party has no realistic choice as to its terms." BLACK'S LAW DICTIONARY 40 (6th ed. 1990).
\textsuperscript{191} See supra notes 166-68 and accompanying text.
\textsuperscript{192} Robertson, supra note 52, at 472.
\textsuperscript{193} Id. at 472-73.
\textsuperscript{194} Id. at 471; Ahnen, supra note 161, at 1354.
\textsuperscript{195} Robertson, supra note 183, at 11 (IVF programs may exert what is essentially monopoly control over the embryo disposition questions).
\textsuperscript{196} Ahnen, supra note 161, at 1354-55.
\textsuperscript{197} See supra notes 59-62 and accompanying text.
\textsuperscript{198} See supra note 167 and accompanying text.
Another possibility includes making seminars available that explain the variety of choices and where they may be obtained. In any event, these possible solutions to the adhesion problem can only be provided efficiently and fairly in legislative guidelines.

3. Validity

Another problem concerning the judicial enforcement of embryo disposition agreements is their similarity to other procreative rights agreements that have been held invalid. Generally, contracts regarding adoption, abortion, and surrogate motherhood are unenforceable. This doctrine was best illustrated in the New Jersey Supreme Court case of In re Baby M.

Baby M involved the legality of a surrogacy contract. The purpose of a surrogacy contract is to provide an infertile couple with a baby through the artificial insemination of an unrelated third party female. In Baby M the third party female was paid a fee of $10,000.00 and, in turn, was expected to conceive, carry the baby to term, and thereafter relinquish the child to the infertile couple. The contract also provided that the surrogate mother would be separated from the child upon birth and would not make future contact. The New Jersey Supreme Court held surrogacy contracts invalid because they conflict with both public policies and state statutes. Therefore, surrogate mothers cannot contractually give up rearing rights and other duties of child rearing, at least at the prenatal or preconception stage. This rationale has also been applied to abortion situations.

Through analogy, one might argue that embryo disposition agreements are similar enough to surrogacy contracts to violate public policies of certain states. After all, if surrogacy contracts are invalid because of the prenatal attempt to relinquish parental rights, why should embryo disposition agreements be treated any differently? Those who support the enforcement of these agreements answer this question by relying on one major distinction between the embryo disposition agreements and those that are similar to surrogacy contracts. That is, in surrogacy contracts, the woman is being asked to adhere to an agreement made before undergoing the physical and emotional factors of pregnancy. It is argued, therefore, that the law recognizes the bonding and emotional relationship that can occur between a pregnant woman and her fetus. In the IVF context, however, this is not necessarily the case. For instance, seeking to enforce an agreement against a female IVF patient that provides for discarding in vitro embryos is distinguishable from the surrogacy situation because, arguably, the IVF patient

199. Robertson, supra note 52, at 465 n.73.
200. Robertson, supra note 183, at 11; Robertson, supra note 160, at 421; Robertson, supra note 52, at 465.
201. 537 A.2d 1227 (N.J. 1988).
202. Id. at 1240.
203. Robertson, supra note 160, at 421.
204. Id.
205. Id.
has not experienced the same physical and emotional attachment that occurs in pregnancy. Thus, one may conclude these agreements are enforceable.

4. **Implied Agreements**

A final problem resulting from the judicial enforcement of embryo disposition agreements is whether an agreement between parties to reproduce may be implied merely through their participation in an IVF program. One certainly could conclude that if express embryo disposition agreements are legally enforceable under a contract theory of law, implied agreements should also be enforceable. The premise is further supported by the observation that the purpose of IVF is to give infertile couples an opportunity to reproduce. Thus, a court may reasonably conclude that a party's participation in the IVF process illustrates that party's intent to have a child. Other factors such as physical, financial, and emotional investment may also illustrate the party's intent to carry out the IVF process.

There are those, of course, who argue that a party's participation in the IVF process should not be used as a basis for implying that an agreement to reproduce exists. Professor Robertson points out that, “because so many contingencies could intervene, . . . creation of embryos alone should not be taken as an irrevocable commitment to reproduction.” For example, situations such as death, divorce, or illness could change a couple's circumstances so dramatically that their intentions regarding the in vitro embryos could change. Further, in the absence of an express agreement, there is no reason to believe that the couple considered these issues and decided that, should the contingency occur, they would continue with the IVF process. Thus, it is argued that participation in the IVF process, without an express embryo disposition agreement, only illustrates the party's intention to create embryos. The decision of whether these embryos should be transferred, and when, is one that occurs later.

Therefore, while consistent judicial enforcement of embryo disposition agreements would provide a level of legal certainty that is not currently present in the IVF process, many serious problems would remain. Questions of modification, adhesion, validity, and reliance are a few of the issues that IVF participants would still face. As discussed below, this Comment maintains that the judiciary, at best, could provide only an ad hoc approach to defining and solving these issues. At worst, inconsistent and subjective resolution

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206. See Farnsworth, supra note 45, at 135 (contract that results from parties conduct is "implied in fact").
208. Trespalacios, supra note 209, at 828.
210. See Robertson, supra note 52, at 475 n. 93.
211. Id. at 475.
212. Id. at 475 n.93.
213. Id.
would leave the IVF participants in no better situation than before judicial enforcement of embryo disposition agreements.

IV. OTHER COUNTRIES AND THEIR SOLUTIONS

The United States is not alone in dealing with the ethical and legal issues resulting from IVF and cryopreservation. In fact, much of the research and development regarding these techniques has occurred outside the United States. For this reason, it is worth considering the paths taken by Australia and the United Kingdom.

A. AUSTRALIA

In 1982, the government of the state of Victoria, Australia established a committee (the Waller Committee) to consider the “social, ethical and legal issues arising from in vitro fertilization.” In large part, the Waller Committee was established to attempt to resolve the much publicized Rios dilemma.

In March of 1981, Mario and Elsa Rios, an infertile couple from California, entered the Queen Victoria Medical Center's IVF program in Australia. During the process, three eggs were removed from Mrs. Rios and fertilized. Of the three fertilized eggs, one was transferred and the remaining two were frozen. The one implanted embryo, however, did not result in pregnancy. Tragically, Mr. and Mrs. Rios died in a plane crash leaving the remaining two embryos frozen in Australia. The Rioses died without having executed a will or an embryo disposition agreement. Immediately, legal and ethical issues surfaced. Among them were questions regarding whether the embryos could be discarded, transferred to another couple, considered heirs and eligible to inherit part of the Rioses' estate through intestacy law, or considered part of the Rioses' estate itself.

In 1984, the Waller Committee issued a report making several observations and recommendations regarding the IVF process. The report included suggestions that (1) the IVF patients be required to give written consent prior to their participation in the IVF process; (2) IVF patients expressly provide for the disposition of any in vitro embryos; (3) the embryos could be discarded, donated to another couple, or donated for research. Id.

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215. The Waller Committee was named after its chairman, Professor Louis Waller. The Waller Committee's members included experts from the fields of law, religion, and science.
216. See Fabricant, supra note 20, at 183.
217. Because Mr. Rios was infertile, the eggs were fertilized with the sperm of an anonymous donor.
219. Id. § 2.7.
220. Id. §§ 2.16-.17. The couple's choices are not limited. They may discard the embryos, donate them to another couple, or donate them for research. Id.
bryos be thawed and discarded if, in the absence of an express agreement regarding the disposition of the embryos, the embryos cannot be transferred as originally intended;\textsuperscript{221} and (4) in vitro embryos be given no independent rights or claims to inheritance.\textsuperscript{222} Further, the Waller Committee suggested that embryos should not be created for research purposes only\textsuperscript{223} and that the in vitro embryo should not be allowed to develop beyond fourteen days after fertilization without being transferred.\textsuperscript{224}

The Waller Committee Report resulted in the passage of the Infertility (Medical Procedures) Act.\textsuperscript{225} The Act, which took effect in 1988, is the first worldwide attempt to regulate IVF and embryo experimentation.\textsuperscript{226} In scope, the Act addresses issues such as medical procedures, facility approval, counseling requirements, consent requirements, disclosure requirements, and record keeping.\textsuperscript{227}

While adopting many of the Waller Committee's recommendations, the Victoria Parliament rejected the suggestion that embryos should be discarded in the event that implantation is not possible. Instead, the Act requires that the embryos be made available to another couple.\textsuperscript{228}

B. THE UNITED KINGDOM

At approximately the same time that the Waller Committee was established, the United Kingdom established the Department of Health and Social Security Committee of Inquiry into Human Fertilization and Embryology (Warnock Committee). Similar to the Waller Committee,\textsuperscript{229} the Warnock Committee was created to consider the social, ethical, and legal implications of non-coital reproduction. Two years after its formation, on June 26, 1984, the Warnock Committee issued its report to the British Parliament.\textsuperscript{230}

The comprehensive Warnock Committee Report made sixty-three recommendations, which were divided into five categories: "a proposed licensing body and its functions; principles of provision; service provisions; legal limits on research; and legal changes."\textsuperscript{231} The Warnock Committee Report and the Waller Committee Report are in agreement in several areas. For instance, both reports recommend requiring IVF patient counseling before

\textsuperscript{221} Id. § 2.18.
\textsuperscript{222} Id. § 2.19.
\textsuperscript{223} Id. § 3.27.
\textsuperscript{224} Id. § 3.29.
\textsuperscript{225} Act No. 10,163, §§ 10-18 (VICT., Austl. 1984).
\textsuperscript{226} Id.; see Patricia King, Reproductive Technologies, 1 BIOLAW 113, 132 (1988).
\textsuperscript{227} King, supra note 226, at 132.
\textsuperscript{228} WALLER COMMITTEE REPORT, supra note 220, § 14; see also Tamara Davis, Comment, Protecting the Cryopreserved Embryo, 57 TENN. L. REV. 507, 519 (1990) ("The practical effect of this legislation is that 'extra' embryos are required to be placed in a pool with other frozen embryos and anonymously selected for implantation.").
\textsuperscript{229} See supra notes 217-30 and accompanying text.
\textsuperscript{230} WARNOCK COMMITTEE, REPORT OF THE COMMITTEE OF INQUIRY INTO HUMAN FERTILIZATION AND EMBRYOLOGY (1984) [hereinafter WARNOCK COMMITTEE REPORT].
\textsuperscript{231} King, supra note 226, at 130; see id. for a detailed discussion of proposal and changes.
participating in the IVF process, requiring informed consent, and limiting the in vitro embryo's development to fourteen days after fertilization.

The Warnock Committee Report differs from the Waller Committee Report, however, in two areas. One is on the issue of embryo disposition in the absence of an expressed agreement, when implantation is not possible. Instead of discarding the embryos as the Waller Committee recommends, the Warnock Committee suggests that the IVF clinic or storage facility should acquire the rights to decide whether to dispose or to use the embryos. Further, the Warnock Committee approaches embryo research differently. In its report, the Warnock Committee suggests that embryos could be created for research purposes, so long as their development did not exceed the fourteen day limitation mentioned above.

The Warnock Committee Report has been influential in the passage of two legislative acts in the United Kingdom. The first is the Surrogacy Arrangements Act passed in July of 1985. This Act addresses the possibility of commercialism in surrogacy agreements. In short, the Act prevents intermediaries from profiting from surrogacy contracts but does not prevent individuals from entering into this type of agreement.

The Human Fertilization and Embryology Bill of 1990 is the other, more recent Act that incorporated many of the Warnock Committee's recommendations. The Act's primary purpose is to permit research on in vitro embryos during the first fourteen days of development following fertilization. Additionally, the Bill establishes a statutory body that is responsible for the licensing and monitoring of IVF programs.

Thus, both Australia and the United Kingdom have attempted to resolve IVF ethical and legal issues by first establishing a committee that is responsible for research and evaluation of the process. Upon completion, the committee presents a final report to the legislative body who considers this report and others in deciding the appropriate means of regulation.

V. CONCLUSION

The problem of legal uncertainty that currently plagues IVF participants in the United States, if ignored, will only grow worse. As the number of infertile couples enrolling in IVF programs increases, so does the likelihood that death, divorce, or dispute will create an in vitro embryo disposition disagreement. Many of these disputes, of course, will be resolved through litigation.

In the absence of specific regulation and legislation regarding IVF programs, the judiciary is unable to provide comprehensive, fair, and efficient

234. See King, supra note 226, at 131.
235. See discussion of In re Baby M, supra notes 203-05 and accompanying text.
236. Fabricant, supra note 20, at 186 n.83.
237. Id.
resolutions to embryo disputes. Primarily, there is the problem of judicial subjectivity that Davis illustrated. Currently, as seen in Davis, the outcome of a particular case may depend on the presiding judge's personal opinion regarding the beginning of life. This problem is not mitigated by the American Fertility Society's recommendations and suggestions for resolving ethical issues that result from IVF. As Judge Young stated in the trial court opinion of Davis, "[t]he Court finds and concludes that the guidelines of the [American Fertility Society] do not serve as authority for this Court in making a determination of whether the seven human embryos in question are human beings."  

The potential for judicial subjectivity is especially troublesome where the parties have entered into an embryo disposition agreement. For instance, where a court adopts the embryo-as-life theory, it may specifically negate the parties' intent to discard in vitro embryos upon the occurrence of a specified event. Clearly, this frustrates the intent and expectations of the parties to the agreement.

Judicial enforcement of embryo disposition agreements in the absence of legislation, however, falls short of providing the certainty needed in the IVF context. Issues concerning the possibility of modification, adhesion, validity, and contractual formation by conduct would be decided jurisdiction by jurisdiction, and even then on an ad hoc basis. Aside from being an inefficient solution, judicial enforcement of embryo disposition agreements also fails to provide a comprehensive approach to the problem.

Thus, it is time for the United States to follow the lead of both Australia and the United Kingdom in providing comprehensive legislation and regulation of IVF programs and participants. This legislation should specifically define the rights and liabilities associated with IVF. Additionally, the legislation should determine: (1) the allowable methods of embryo disposition; (2) what parties have the right to determine the disposition; (3) the requirements necessary to make a valid disposition agreement; and (4) what type of consent is required to participate in the process and how that consent is to be made. Until this type of legislation is passed, and a coherent, comprehensive policy regarding IVF is established, infertile couples, doctors, and clinics will have to continue seeking legal certainty from a judiciary that is currently unable to handle these issues effectively.

238. See supra notes 90-147 and accompanying text.
240. See supra notes 63-79 and accompanying text.
APPENDIX A
CONSENT FORM
CRYOPRESERVATION OF FERTILIZED EGGS (PRE-EMBRYOS)

TO THE PATIENT:
PLEASE TAKE THE OPPORTUNITY TO SPEAK WITH YOUR HEALTH CARE PROVIDERS AND REQUEST INFORMATION ON YOUR CONDITION, THE RECOMMENDED TESTING AND PROCEDURES, ALTERNATIVE PROCEDURES, AND THE RISKS AND BENEFITS OF THE PROPOSED CRYOPRESERVATION OF FERTILIZED EGGS (PRE-EMBRYOS) FOR TREATMENT OF INFERTILITY. BY FRANK AND OPEN DISCUSSION WITH YOUR HEALTH CARE PROVIDERS, YOU WILL BE AFFORDED THE OPPORTUNITY TO PARTICIPATE IN THE DECISION MAKING PROCESS CONCERNING YOUR TREATMENT.

We, ____________________________ (husband and wife) the undersigned, understand that as a result of our participation in the ABC Hospital Assisted Reproductive Technology Services (ARTS) In-Vitro Fertilization/Embryo Transfer (IVF/ET) or Tubal Embryo Transfer (TET) program, more fertilized eggs (pre-embryos) may form than our physician(s) recommend be transferred in the IVF/ET or TET cycle. We wish these pre-embryos to be frozen (cryopreserved) so that they may be transferred to the wife's uterus in a later cycle for the purpose of establishing pregnancy. Freezing of pre-embryos may occur just following fertilization at the pronuclear stage, or at later multiple-cell stages.

RISK OF LOSS IN FREEZING AND THAWING

We understand that there is no guarantee that pre-embryos will survive the freeze/thaw process, nor that a pregnancy will occur with pre-embryos that have been frozen and thawed. We also understand that mechanical failure or human error can occur at any point in the process which would result in loss of pre-embryos. We accept the risk of mechanical failure and human error and release ABC Hospital, ARTS and our physician(s) from liability for any loss of pre-embryos due to mechanical failure or non-negligent human error.

JOINT DISPOSITION

We understand that the pre-embryos are subject to our joint disposition as limited by the conditions stated below in this form, and that all decisions about their disposition, within those limits may be affected by applicable law or by court decision. We understand that we can jointly change the directions for future disposition contained in this form at any time by signing a new consent form incorporating any new disposition acceptable to the ARTS Program.
PLACEMENT OF THAWED EMBRYOS

We understand that when we are ready to have cryopreserved pre-embryos thawed for the purpose of establishing pregnancy, one or more of the cryopreserved pre-embryos may be thawed and placed in the wife's uterus for that purpose. Only thawed pre-embryos considered to be potentially viable, as determined by the ARTS' embryologist(s), will be transferred to the uterus for that purpose.

MONITORING OF WIFE'S CYCLE

Frozen pre-embryos will be thawed and placed in the wife's uterus only if our physician(s) determine that the cycle is adequate to receive thawed pre-embryos. This determination requires careful monitoring of the wife's cycle. We understand that this monitoring will require several blood tests and/or other medically indicated examinations/treatments. The cost of this monitoring is in addition to the other costs incurred for freezing, storing, and thawing of our pre-embryos.

INABILITY TO TRANSFER PRE-EMBRYOS

We understand that in freezing pre-embryos, it is the intent of all parties to enable those pre-embryos to be placed in the wife's uterus in later cycles. However, there may be future circumstances that make us unable or unwilling to undergo such placement, or that make it impossible or medically inadvisable for our physician(s) to proceed with such placement. We understand that the ARTS physician is not obligated to proceed with transfer, if on the basis of reasonable medical judgment or new scientific evidence, it is concluded that the risks of transfer outweigh the benefits.

DISCARD OF EMBRYOS ONLY AS LAST RESORT

We understand that ARTS does not intend to thaw without transfer to the uterus or otherwise discard potentially viable frozen pre-embryos. We understand that any frozen pre-embryos that are not or cannot be placed in the wife's uterus will be donated to another ARTS program for the purpose of transfer to the uterus of infertile women seeking pre-embryo donations. ARTS will make reasonable and diligent efforts to locate such programs. Barring an emergency or other unforeseen circumstance that makes donation impossible, ARTS intends to donate frozen pre-embryos that we no longer wish to be placed or that cannot be placed in the wife's uterus to an ARTS Program that has a reasonable possibility of donating them to infertile women. If after diligent efforts no programs willing to accept frozen pre-embryos for transfer to women seeking pre-embryo donations can be found, the ARTS program, as a last resort, may discard potentially viable frozen pre-embryos.

DISCARD UNDER OTHER PROGRAMS

We understand that other ARTS Programs exist in Texas and other states that do offer discard as a dispositional alternative for pre-embryos that can-
not be placed in the wife's uterus. We understand that we seek treatment at those programs if we desire such a dispositional option.

**DISPOSITION TO OTHERS**

We understand that this form is an agreement between ourselves, ABC Hospital, Assisted Reproductive Technology Services and physician(s) treating us concerning disposition of our frozen pre-embryos if the following events occur:

1. In the event of death of husband, we wish the frozen pre-embryos to be:
   - ________ preserved for disposition by the wife
   - ________ donated for transfer to infertile women
   __________ (initials)

2. In the event of the death of the wife, we wish the frozen pre-embryos to be:
   - ________ preserved for disposition by the husband
   - ________ donated for transfer to infertile women
   __________ (initials)

3. In the event of both of our deaths, we understand that frozen pre-embryos will be donated for transfer to infertile women.
   __________ (initials)

4. In the event of our divorce, we wish any frozen pre-embryos to be:
   - ________ donated for transfer to infertile women
   - ________ placed at the disposal of the __________ wife or the
   __________ husband.
   __________ (initials)

**DIVORCE OR DEATH OF SPOUSE**

In the event of divorce or the death of either spouse, the spouse given dispositional authority over frozen pre-embryos by this agreement shall have the same dispositional rights that we have under this agreement, including the right to withdraw from the ARTS Program as stated below. These dispositional rights are subject to all guidelines of ARTS, which at the present time do not permit placement of pre-embryos in a woman who is not married.

**STORAGE OF PRE-EMBRYOS UNTIL WIFE'S AGE 50**

We understand that we may store our frozen pre-embryos for a period of time not to exceed the normal reproductive life of the wife or her reaching age 50 if we so instruct ARTS. We understand that at that time, all frozen pre-embryos will be donated for transfer to infertile women. To assure continued storage of our frozen pre-embryos, we must inform ARTS in writing of our desire to continue storage at least once every three years. ARTS reserves the right to donate frozen pre-embryos if we have not requested
further storage in writing for three years since such instructions have been received by the Program.

**VOLUNTARY RELINQUISHMENT; WITHDRAWAL FROM THE PROGRAM; TRANSFER**

We understand that at any time that we have frozen pre-embryos stored at ABC Hospital ARTS, we may, by a signed and notarized written statement, relinquish any or all of those frozen pre-embryos for donation to infertile women. We also understand that we have the right at any time to withdraw from ABC Hospital ARTS and remove our frozen pre-embryos to another ARTS Program or storage facility of our choice. We understand that in the event of withdrawal and transfer of pre-embryos to another facility, we assume the risk of any loss of pre-embryos that may occur in the process of transfer or in the subsequent storage and handling of our frozen pre-embryos, including any reduction in the chance of successfully establishing pregnancy with them. We hereby release ABC Hospital, ARTS and our physician(s) from any liability or damages for transfer of frozen pre-embryos to another facility after our withdrawal from the ABC Hospital ARTS Program.

**TERMINATION OF ARTS PROGRAM**

We understand that ABC Hospital ARTS reserves the right to terminate its participation in cryopreservation of pre-embryos. In this event, all reasonable efforts will be made to arrange transfer of frozen pre-embryos to an ARTS program or storage facility that is acceptable to us. In the absence of directions from us concerning transfer of our frozen pre-embryos to another ARTS program or storage facility, the ARTS program will select another ARTS program or storage facility for continued storage of our pre-embryos. ARTS will pay the expenses that arise from transfer to and storage at another program or storage facility for up to one year. We understand that we will then be responsible for contracting with the new program or facility for further storage of our pre-embryos, and will be subject to any limitations which that program or facility places on storage of pre-embryos, including discard or donation of pre-embryos for nonpayment of storage fees.

**ANONYMOUS DONATION**

We understand that donation of frozen pre-embryos in accordance with this agreement will be made anonymously. We understand that we will not be informed of the identity of the recipient of such donations, or whether any children are born as a result. We forever relinquish any claim to or jurisdiction over any offspring that might result from donation of our pre-embryos, subject to any requirements of obligations imposed by applicable law to pre-embryos donations. We understand that ARTS will not charge us for any costs associated with or arising from donation of our frozen pre-embryos for transfer to infertile women.

Unless required by court order, we understand that our identities will not
be disclosed to any ARTS program or woman who receives donation of our frozen pre-embryos or disclosed to any other person. However, we agree that before donating frozen pre-embryos, we will each fill out a questionnaire on our physical characteristics, education, and personal and family health history, for use by ARTS in making such donations. Except by court order, no program or woman receiving a donation of our frozen pre-embryos will have access to our identities or to the actual completed questionnaires, but they may receive non-identifiable information disclosed in the questionnaire to help them make a decision concerning receipt of our frozen pre-embryos.

**Blood screening**

We understand that we will have to undergo tests of our blood or body tissue to screen for transmittable disease both before ARTS treatment and 6-8 months following freezing of pre-embryos. We agree to take these tests and understand that we will bear the costs of the screening procedures.

**Risk of abnormalities**

We understand that extensive animal data and limited human studies do not reasonably indicate at the present time that children born as the result of freeze/thaw of IVF-created pre-embryos experience a high rate of abnormalities due to IVF/ET or due to the freeze/thaw process. However, we understand that until very large numbers of children have been born following freezing/thawing of pre-embryos, it is not possible to be sure whether the rate of abnormalities is different from the normal rate. Amniocentesis or other prenatal tests may detect some but not most abnormalities that affect children. We accept these risks and acknowledge that any abnormality of a child born after freezing/thawing of pre-embryos is not the responsibility of ARTS.

**Charges**

We understand that the pre-embryo freezing and thawing process is intricate and time-consuming and that we are responsible for all related expenses.

We agree to advise ARTS of any change of address within three months of such change.

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(Signature of Wife)

(Signature of Husband)

(Signature of Witness)

(Date)